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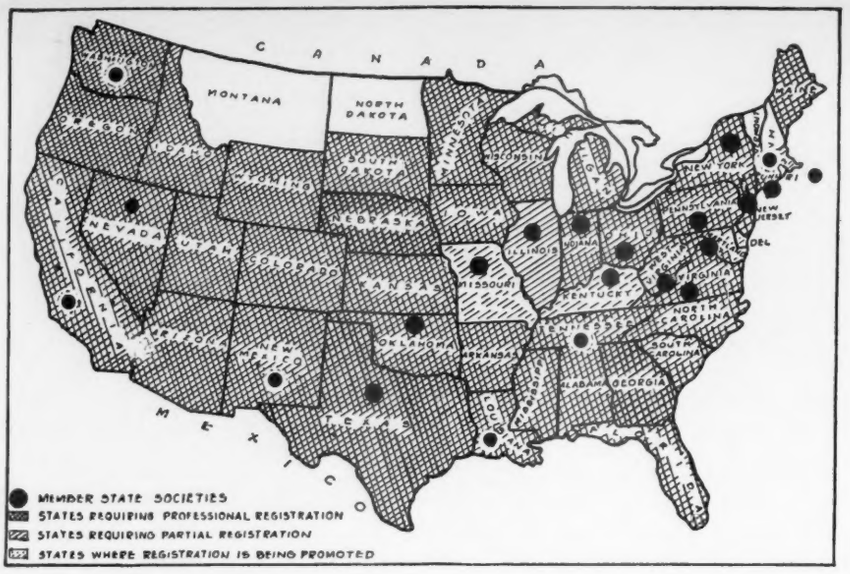

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Photograph by L. Alton Long, Jr., Muncy, Pennsylvania

THE COVER—The sentimental "Last Raft," floating down an eastern river, symbolizing the traditions of the old logging industry, met with catastrophe—the loss of seven lives. This "shot" is the moment of impact of raft against bridge pier. At the coroner's inquest, testimony was "too many pilots." The concept of the Reorganization Bill (U. S. Senate 3331) is the elimination of overlapping Federal Bureaus—too many pilots on the same "governmental raft." But does the Bill swing to the other extreme and place too much concentration of power in a President's hands?

THE AMERICAN ENGINEER will from time to time attempt to record on its cover major incidents of national and international character so that files of the magazine in the future may be a picture record of such events. We will be glad to receive from our members suggestions as to covers, and if you care to send us photographs which you think may be of interest, we would be happy to receive them.

The American Engineer assumes no responsibility for statements or opinions expressed by contributors. Their names identify the source of the same.

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EDITORIAL • • •

HOW "WELL-ROUNDED" SHOULD ENGINEERING TRAINING BE?

It is well to be analyzed by those outside the Profession who bring unbiased judgment.

The Editors of *Public Management,* a magazine "devoted to the conduct of local government," recently received a letter of inquiry from one desiring to enter the "field of public administration."

> "Are engineering training and experience as good or better for this type of work than other types of training?"
>
> To which the Editor specifically and quite frankly replied:
>
> "Engineering training and experience have proved as good as other types of training for this field of work.
>
> *"The principal difficulty with engineering training is that it does not give sufficient background in social sciences,* which is essential if a city manager is to have a sufficiently broad concept of his job."

We naturally ask ourselves the question,—What are the Social Sciences? The term is used rather vaguely at times but we would assume there is meant the sciences that apply to human relationships as opposed to the physical sciences applying to materials, elements and natural forces.

ECONOMICS—is a Social Science—the relation between the value of two or more factors; behavior of money; profit or loss; the worth of labor, of management and of capital.

GOVERNMENT—is a Social Science. The nature and forms of government; the rights of the governed; the obligations of those governing; organization; relationship with other units of government.

EXPRESSION OF IDEAS—is considered a social science either by speech, by sign or symbol. We term it language, and none of us approach perfection in its use. Recently Mr. Stuart Chase wrote "The Tyranny of Words" and after reading it we conclude that the use of language is an art.—not a science.

There are a number of the social sciences and certainly any successful administrator be he engineer, lawyer, physician, accountant or other, will have more chance of success if he has a more nearly thorough knowledge of human relations, or call them the social sciences.

Let us urge upon engineers as much of cultural or social science training as they can absorb—BUT—is this statement that the engineer lacks "sufficient background in the social sciences" founded on fact—or is it one of those old sayings begun a generation or two ago, repeated often until it is now accepted as a "Truism?"

We have lived with physicians, lawyers, chemists, accountants, engineers—by themselves and together—and we fail to see any essential difference of degree of knowledge and use of the social sciences.

We maintain that an engineering training is the best foundation for public administration; that study of the social sciences should begin in college; that more of the cultural subjects must be added to engineering courses and such study continue through life (with all possible experience in them added) and that the Professional Engineering movement with its adequate registration laws, their sensible interpretation and honest administration, will speedily offset the constructive criticism which we so sincerely appreciate from "Public Management."

ROBERT HALL CRAIG

NATIONAL SOCIETY NEWS

N. S. P. E. in a Nutshell

The following letter, the purpose of which is apparent, explains some of the major activities of our National Society.

FELLOW ENGINEER:

We extend to you a most cordial welcome to membership in the National Society of Professional Engineers, of which you are a member by virtue of your membership in your State Society.

NSPE is a federation of State Societies whose affiliation is contingent upon the restriction of their membership to licensed Professional Engineers in accordance with the laws of the States, and fills the same position in the Engineering Profession as does the Bar and Medical Associations in their respective professions.

You have or will receive from your state office a copy of a booklet titled, *The Professionally Minded Engineer,* (which contains an outline of the objectives) and a copy of the constitution. Your chapter officers may also secure from your state office copies of the resolutions adopted at our last annual convention, together with copies of a paper titled, *Professional Engineers and the Union Issue,* all of which outline the policies as adopted by NSPE upon the recommendation of its affiliates.

At our request: colleges are correcting the unethical competition of professors with practicing engineers; authorities in New York recently ruled that Deputy Tax Commissioners, who heretofore were political appointees, were practicing engineering when passing on valuation of properties, and henceforth will be required to have a license as Professional Engineers; manufacturers are correcting the most unethical practice of furnishing free engineering services; and one national industry has recently adopted the following for its advertisement, "See your Consulting Engineer." Obviously the enumeration of the far-reaching benefits to Society and the Profession which have been effected cannot be confined to a letter. Read your AMERICAN ENGINEER for details.

NSPE acts essentially as a guiding and coordinating agency in national affairs. It promotes and assists in the establishment of State Societies, and has, as of March, 1938, 23 state units affiliated with it, of which eight were organized in 1937. It acts as a clearing house on recommendations for state license laws and amendments thereto, and edits, publishes and distributes the AMERICAN ENGINEER.

Matters affecting the profession must be referred to it only through and as the result of action by the State Societies. Thus all correspondence should be directed to your county or state offices with the exception of emblem and diploma orders, a copy of which is enclosed herewith to be executed at your pleasure.

Support of your county chapter and state officers will render an effective and a powerful instrumentality for the betterment of Society and the Engineering Profession, the premise on which is predicated the ideals and purposes of NSPE.

Cordially yours,
WILLARD S. CONLON,
Executive Secretary.

DEEP LOSS

The loss sustained by the New Jersey Association of Professional Engineers and Land Surveyors in the death of Engineer Victor Gelineau will be felt by every one who knew him. The state and nation will feel his absence from private and public activities.

NATIONAL SOCIETY NEWS

Welcome Maryland!

Organized in Washington Office, March 23, 1938

The National Society of Professional Engineers through its Executive Secretary, Engineer Willard S. Conlon of Silver Spring, Maryland, announces the organization of the Maryland Society of Professional Engineers, which is the twenty-second State Unit to receive a Charter. Membership will include all branches of the Engineering Profession: civil, electrical, mechanical, chemical, etc., and will be restricted to those Engineers who are qualified by education and experience to secure a Professional Engineer's License.

The principle objective is a better adaptation of Engineering to the service of society and to make the engineer conscious that he is first a citizen and second an engineer. The promotion of a Professional Engineer's License Law to restrict the practice of Professional Engineering to qualified Engineers in the interest of the public will be one of its first concerns. Such laws are in effect in 39 States and three U. S. Possessions. Kentucky was the most recent State to pass such a law, which was effected by Governor A. B. Chandler's signing the bill on March 11th.

The President of the Maryland Unit is Engineer Fred W. Gast, former mayor of Cheverly, Maryland, who has for many years been Chief Engineer of the Bureau of Customs, Treasury Department. Professor Russell B. Allen of the University of Maryland, College Park, was elected Secretary-Treasurer of the Society.

TENNESSEE IS NOW ORGANIZED!

23rd member State Society to receive a charter
Organized by N. S. P. E. at Vanderbilt University, March 31, 1938

ANNUAL MEETING OF NATIONAL SOCIETY TO BE HELD AT PITTSBURGH PROBABLY IN OCTOBER

At a meeting of the Board of Director of the Pennsylvania Society of Professional Engineers at Harrisburg on April second plans were laid for the appointment of committees to arrange for the annual convention of the National Society. The Convention will be sponsored by the Pennsylvania Society with the Pittsburgh Chapter acting as direct hosts. All Pennsylvania State Chapters will share in underwriting the preliminary costs and additional revenues will be obtained by rental of booth space, by advertising, by donations from municipal agencies and others. The National Society will look after the recording of the full proceedings. Leaders in the other learned professions, elected and appointed leaders in the City, State and Nation and outstanding members of the Engineering Profession will address the meeting on social, economic and political subjects of direct concern to the engineer and to the national life. It is possible that professional engineers from our neighboring nation, Canada, and from European countries will attend.

The Pennsylvania State Society will hold its annual state convention coincident with the National convention.

Pennsylvania, with the splendid example of the 1937 convention, planned and staged by the New York Society, still fresh in its collective mind, sets up that meeting as a goal to attain.

T. W. BATTIN,
Executive Secretary

ALEX HUTCHINSON,
President

BRAVO KENTUCKY!

To all State Presidents, Secretaries, and National Directors:

Enclosed herewith you will find two copies of a Press Release regarding the organization and the chartering of the 21st State Society to become affiliated with NSPE, as of March 23d.

It is my pleasure to advise that Governor Chandler signed the Kentucky Engineers License Law as of March 11; thus there are now 39 States and three U. S. Possessions now having Professional Engineers License Laws.

It is also my pleasure to advise that our Virginia Society of Professional Engineers has succeeded in having their proposed amendments written into the Virginia law, thus strengthening the Registration Act in that particular state.

May I suggest that we all send our congratulations to the officers of the Kentucky and the Virginia Societies of Professional Engineers, and too, that we congratulate the officers of our new Unit, the Maryland Society of Professional Engineers.

Recently you received a form letter advising that emblem cuts for printing were available for the use of State Societies and County Chapters. Such use to be confined to the official business of these units. Recently it has come to our attention that some members of NSPE are contemplating using these emblems on their personal stationery and calling cards. Please advise your members that there has been no authorization for use of the Society Emblem other than on the official stationery of the State Societies or county chapters.

Congratulations are also in order to the Chairman of NSPE Legislative Committee, Engr. S. I. Sacks, for his counsel and guidance in our legislative program.

Watch the American Engineer for details!

With sincere regards and best wishes, I am

Faithfully yours,
WILLARD S. CONLON
Executive Secretary

Training Engineers

By **J. EDWARD JOHNSON**

Director of Education and Training, Carnegie—Illinois Steel Corporation—Pittsburgh District

Training an engineer is an undertaking which requires the careful and patient attention and effort of a number of individuals or groups. In the first place, the individual concerned must be determined in his desire to become an engineer and be willing to pay the price involved. His decision in this matter should not be arrived at by any hit or miss plan, nor should he go blindly into the study of a particular profession because of some acquaintance whom he knows to be successful. Most high schools and preparatory schools have guidance bureaus where information can be obtained. Advice may be sought and counsel is gladly given. Men already in the profession gladly advise and assist the student and, in many cases, young men are employed in some minor capacity of some professions before actually embarking on the long, hard grind of preparation. Assuming the individual has had the advice and counsel of men already in the profession, that he has some knowledge of what is required in a particular profession and that he has the necessary characteristics and qualifications, he is now ready to embark on his formal schooling in some college or university.

The college or educational institution is the second point upon which responsibility rests. Through 4, 5, or 6 years or more, every effort is made to present such subjects and direct the study so as to make possible the achievement of the individual's desires. In spite of the individual's good intentions and the colleges' excellent tutoring, training is not complete.

It is idle to assume that academic instruction, however excellent it may be, completes the individual's training; that having been exposed to a great amount of theory, he will be able to discharge the required duties in his chosen profession.

Graduation is marked by commencement exercises. Commencement is certainly a logical word as the individual, whether in engineering or any other pursuit, is just commencing and his training will go on and on. If for no other reason than the constant change taking place all around us in all pursuits, the individual's training must continue. New ideas, new methods, new problems in all fields, demand constant development of an individual, regardless of age. In this highly competitive age of ours, he who rests on his laurels will be passed.

The third group upon which responsibility rests is the industry or profession. For the new man, after graduation from college, his first job requires careful breaking in. This is a matter of job instruction which continues as long as he remains on the job.

It is reasonable to suppose that once an individual has chosen a particular profession, he honestly expects to be successful in it. The colleges make every effort to see to it that the individual is given the proper training, and industry, now more so than ever, makes every effort to start the new man correctly. The colleges also follow-up their graduates and through personal visits or by sending out questionnaires an attempt is made to determine ways and means of improving curricula.

Recently, Professor Frank L. Eidmann of Columbia University undertook to ascertain how well industrial executives were satisfied with young engineering graduates whom they employed. It was found that a large number of employers reported only a low percentage meas-

J. EDWARD JOHNSON

ured up to expectations. This led him to search deeper.

Here are some of the points developed which were presented in a paper by Professor Frank L. Eidmann recently. The following few paragraphs are quoted from this paper:

"The estimates from the various companies as to the percentage of young engineers who prove satisfactory range all the way from 10 to 100 per cent, with the largest number distributed fairly evenly between 50 and 90 per cent.

"An official of a large company told me that his company expects engineering graduates, after a period of orientation, to stand 'head and shoulders' above the men who come up through shop positions, and to be similarly superior to graduates of liberal arts and sciences. He stated that engineering graduates in very few cases measure up to this expectation. The president of a company wrote: 'It depends on what you mean by "satisfactory." Some are content to stay where they are left, and others want to climb to the top. Of course, it is the latter type, when restrained by reason, that we prefer.' Similarly, the vice president of another company wrote: 'Answer to this question depends upon the definition of the word "satisfactory." Probably 90 per cent of these young graduates turn out to be reliable, hard-working employees, but not more than 25 per cent, and probably less, turn out to be top-notch engineers or salesmen.' Another large company reports: 'Our records show that approximately 70 per cent of the college men who come with the company remain with it. Naturally, some of these are a great deal

more satisfactory than others. There are, undoubtedly, a number of them who merely hold routine jobs and will continue to do so as long as their work holds up to a reasonably exacting standard.' An engineering executive of another large company states: 'Over 90 per cent of the college graduates whom we take in do work which is satisfactory, but this does not mean that they are outstanding. Probably not 10 per cent would qualify as outstanding with respect to knowledge and their ability to apply it.' Similarly another very large firm reports: 'Probably 90 per cent of them are *usable* in the organization, but only a relatively small percentage turn out to be really satisfactory.'

"As to those young engineers who prove unsatisfactory the comments from industry indicate almost unanimously that personal traits and attitude are responsible. The fault most mentioned in the letters is 'the inability to get along with his associates,' and, to introduce the element of time, 'lack of ability to fit in quickly with their fellow employees and to make friends readily.' Next stand 'over-eagerness for advancement.' Other faults mentioned are: 'Unwillingness to prepare for advancement over long enough period'; 'lack of aptitude for engineering work'; 'inability to adapt themselves to the routine of operating work and at the same time avoid getting into a rut'; 'lack of initiative'; 'inability to grasp practical aspects of problems and situations'; 'impractical and unable to apply themselves'; 'general inability to sell themselves'; 'lack of willingness to work'."

Similarly, at the Twelfth Annual Industrial Conference at Rutgers University, September 9, 1937, a Report of a Survey of Adjustment of College Graduates in Industry was presented. This survey differed from the one just mentioned in that the questionnaires were distributed to college men in the industries.

Such questions as: "What subjects not pursued in college would have helped you most at present?"; "Is your present position in the field of your college training?"; "Do you consider your college education a good investment?"; "If you were called upon to address a group of seniors on the problems of adjustment in industry, what is the most important point you would discuss?"; and many others, is certainly an indication that the colleges are making a sincere effort to produce the type of men required.

In the proceedings of this conference, Professor Fred H. Pumphrey states:

"It seems to me that the opportunities for the solution of this problem lie in four general directions. The first involves better educational situations in our schools. The second will be in the field of continued social education of the college graduate. A third possibility is a well planned transition program in industry. Last, but not least, is the development in industry of an idealism which will eliminate many undesirable practices, which, at present, require an adjustment on the part of the college man."

Assuming now that all the preliminary work has been completed and that the individual has been graduated from college, the young man obtains his first position as an engineer. The first few years following graduation are probably the most important, as well as the most difficult, in his career. This is the period of adjustment to commercial life, and his entire future will be influenced by the type of work he performs and the work habits he acquires during this critical stage.

It would be folly for me to attempt to give you a "cut and try" method to follow during these critical years. Each industry must determine this for itself. What might prove highly successful in one type of industry may fail in another. There are, however, some basic points which should be considered.

Since there are many types of engineers and, in many cases, many specialized branches of each type the first step is certainly to determine the particular type or branch which he is best qualified to follow. Secondly, plan the work for developing the individual in successive steps beginning with the simple and progressing to the more complex.

Certain objectives are essential and should be developed, a few of which may be:

1. Develop qualified engineers to carry on the important and ever increasing development work in connection with the profession or industry. Qualified men are difficult to obtain. Even when obtainable, outside help in most cases must be oriented; the men must learn the particular business.
2. Develop those personal traits and characteristics which are known to be most desirable. Careful attention by the supervisory force will eliminate a difficulty often prevalent in the college man—inability to get along with associates.
3. Temper inordinate eagerness for advancement. The college man often fails to comprehend the great amount of practical experience necessary for a well rounded training.
4. Develop willingness to prepare for advancement. This requires, in most cases, a long period of careful attention to detail from the practical standpoint.
5. Develop aptitude for engineering work. Eliminate resistance to routine engineering practice which is so essential for a thorough knowledge of engineering problems.
6. Develop initiative and self-confidence. Schedule the day-to-day experience or work, route the individual through all phases of the work and place him on his own. He must be taught to accept responsibility.

These objectives, if attained, will eliminate the faults most frequently mentioned in letters received by Professor Eidmann and included in his paper. While these objectives may not be all-inclusive, nevertheless, they are basic and can be used as a start.

Once objectives have been established, the procedure for training should be carefully planned. Definite, predetermined plans flexible enough, of course, to allow for contingencies, should be prepared. Training should follow the actual performance of duties and progress, in easy stages, from the simple to the more complex. Interest must be maintained and there is no better way to do this than by doing a job which has some value. Exercises, which will be scrapped when completed, while of benefit in developing skill are not considered as good methods in training at this stage. The graduate has spent years in college on one exercise after the other. He now craves real productive work. Give him a job, a real job, with some responsibility; make him understand that the drawing or machine part will be used, or that his particular operation is a part of the overall particular operation, and he feels he is of value.

Before he commences to work, make him feel he is a part of the organization, introduce him to his fellow workers. Explain any general rules governing the office, department, or plant, and, by all means, policy. If there are safety hazards, stress safety.

In developing the plan for day-to-day experience, set up a control chart or some device to avoid omission of types of work and let the individual know what is planned. In this way, he, too, can check, as time goes on, his advancement in the detailed plan.

Trade and engineering magazines should be circularized to permit not only this group of engineers who are in training, but all engineers to keep abreast of the times.

Conferences and class sessions often have a definite place in such training programs. When held, it is preferable to hold them during working hours.

It may be of interest to the group to cite a few concrete examples of training now in progress with the Carnegie-Illinois Steel Corporation.

Most of the engineers inducted into our organization are placed in a metallurgical group known as the Observation Corps. It matters not whether they be mechanical, electrical, industrial, civil, or metallurgical engineers. We have found by experience that a man will be more valuable in any capacity in the steel industry for having had experience with the progressive stages in the making, shaping, and treating of steel. His period of employment in an Observation Corps may be from six months to two years, depending upon his ability and the openings available for advancement. While in the Observation Corps, he is routed through every producing department in a plant and performs an actual job in connection with producing steel. Briefly his duties are:

In the open hearth, watch the charging, working, tapping and pouring of the heat of steel, record all pertinent data, run carbometer tests for carbon content, help the melter calculate the necessary additions to the heat, and generally make himself useful to the melter foreman. At the soaking pits, the observer takes the temperatures of the ingots in the pits, keeps the heater informed of temperatures observed and records all data relative to the heating of the steel. On the rolling mill, he is charged with reporting the rolling and finishing characteristics of the steel, recording any defects which might possibly develop. In the clipping yard, the observer records the types of defects found on each bloom. In the office, statistical work of correlating the open hearth and rolling mill irregularities against the types of defects found in the yard is carried out by the observer. In the laboratory, routine physical tests are made by the observer, troubles are investigated and heat treatments are studied. We believe that this is as rounded an experience as we can give these men to supplement their schooling and start them in the business of making steel.

Periodically, these men are rated by their immediate superiors. In addition, an effort is made to ascertain what type of work they would like to follow. While the men are in the Observation Corps, we observe their progress and ability, and they in turn observe the entire organization and try to select the type of work they feel best fitted to do or in which they are most interested. As vacancies occur the best equipped men are given first consideration.

In addition to this work, which is, in many cases, hot and dirty and follows different shifts, various conferences are held to discuss the problems which arise in the fulfillment of their regular duties.

Definite class work, on company time, using the Corporation text on The Making, Shaping, and Treating of Steel is contemplated. This will permit a closer correlation between theory and practice.

This plan of training men in the Observation Corps has been quite successful and many individuals have benefited by being transferred into better positions of a permanent nature.

A second group of engineers in training are Industrial Engineers. Definite schedules have been prepared with allotted periods of time, for approximately two years, covering work of a nature performed in this department.

(Continued on page 12)

The Professional Engineer Abroad

by GENNARO MIANULLI

Member N.S.P.E.
(Kings County Chapter, New York)

In respect to registration laws for Professional Engineers, I have made a personal inquiry in various countries whee such licenses are required.

In 1933 I was in Italy, and I recall that there was a misunderstanding at the time between the Edison Company of Milan and the local chapter of Ingegneri. The controversy was whether the Edison Company could appoint men without licenses to responsible positions, and whether such unlicensed men could lawfully be called *ingegnere*. Dr. del Buffolo, the head of the national engineering society, came to Rome to take charge of this case. An agreement was reached as the result of these hearings, and the Edison Company recorded its recognition that a national law could not be violated and promised complete compliance in the future.

I was introduced to Dr. del Buffolo and interviewed him about his organization and the way it worked. He told me that *no one is going to give the engineers anything unless they get it for themselves.*

I asked him whether his attitude did not place him in an embarrassing position in respect to his business connections and subject him to abuse and attack. He told me in reply that the engineers' license law was upheld by the Italian courts; that lawyers respect engineers and did not embarrass them when acting as expert witnesses in court but on the contrary showed respectful consideration and understanding of differences of professional opinion.

My study of professional relations abroad confirms my outstanding conviction: *No one is going to give the engineer recognition unless he is willing to fight for it.*

ENGINEER OFFICERS

Pennsylvania Society of Professional Engineers
Nine Twenty One Widener Building—Philadelphia

March 29, 1938.

Hon. George H. Earle, 3rd,
Governor of Pennsylvania,
Harrisburg, Pennsylvania.

Your Excellency,

It has been brought to the attention of our Society, that the 103d Engineers, Pennsylvania National Guard, a component of the U. S. Army, is officered by men who are not engineers.

The members of this Society, representing the registered Professional Engineers of the State of Pennsylvania, believe that the War Department Regulations should not be violated to the detriment of engineers. Our understanding is that in order to be a Field Officer in the Federally recognized National Guard of the United States, a man is required to have at least fifteen years of experience actually engaged in engineering or some business so closely related to engineering that it fits him technically for engineering service, and must have a college education or the equivalent through training and years of experience, yet we are reliably informed that not a single Field Officer of the 103d Engineers is an engineer even approximately meeting these requirements.

We can readily see that it might be inconvenient to separate men from the service who have long and honorable records, but what we are writing to ask is whether the Regulations pertaining to engineering cannot be enforced in all new appointments and all future promotions. We understand further that there *is* about to be a number of promotions made within this regiment, and we are asking as engineers, representing the largest organization of legally recognized engineers in the United States, if you will not advise us that the War Department Regulations will be followed in the future.

Respectfully,

SAMUEL I. SACKS,
Chairman, Legislative Committee

The Architect Before the Bar of Justice

By **SAMUEL I. SACKS, C.E.**

Member of the Philadelphia Bar, Director, National Society of Professional Engineers

Editor's Note: Engineer Sacks wrote this article for the *Journal of the Pennsylvania Association of Architects,* which is the official publication of that group. Engineer Craig is to write an article for a coming issue. By such efforts do we draw the two professions closer.

Legal aspects of the Architectural profession and the responsibilities of the Architect are forcibly brought to our attention.

In order that there shall be no confusion as to which bar is meant, this article deals only with the Bar of Justice as defined by our Pennsylvania Courts and Legislature and not the coppered or mirrored bars designed by those members of the architectural profession, which have caused the hallucinations of those afflicted with D.T. to go *moderne* instead of *a la* St. Patrick.

What Is An Architect?

Anyhow, before the Bar of Justice of Pennsylvania and not that of St. Peter, who are you; what are you supposed to know and what must you do to live a free life?

Well, regardless of whether you have had a college education or not (be it Pa. or Beau Arts or Hard Knocks) our courts have said that if you are an architect, you are an expert in carpentry, in cements, in mortar, in the strength of materials, in the art of constructing the walls, the floors, the staircases, the roofs, and you are duty bound to possess reasonable skill and knowledge as to all these things.

It's a pretty big bill, isn't it? Well, if you can fill the bill, and read on; if not you had better quit right now.

Fear not, if this is not bad enough, worse is yet to come. Before you attempt to do anything be sure you do not offend the Architects' Registration Act of Penna. and all its amendments in any of its details. Before you can practice architecture you must be registered. The act sets forth minimum requirements, yet before you are granted your license you feel as if they want you to be a Paul Cret or a Stanford White (not shot or half shot).

Under no circumstances call yourself an architect or hold yourself out as one regardless of what degree your *alma mater* gave you, unless you are licensed. If you do the bogey man will get you and you will face a $500 fine and a six-month rest in an establishment inconsistent with the liberty, designed by one of your compatriots ages ago.

Again, do not team up with others not licensed, nor allow them to use the word "associate" or join with you in contracting for architectural hire; if you do, a like sentence awaits you. Remember, take no step without reading the act, which should be your bible in all your transactions.

The Architects' Registration Act at present exempts anyone drawing or submitting plans as long as he apends his proper designation as "contractor" or "builder" or "carpenter," etc. In one case a builder drew a set of plans. He signed all but one plan as "builder." He was held guilty for signing this one drawing by name only without any designation as to his trade. Fortunately he was a married man and the Court dealt lightly with him.

Now if you are registered, you are fortunate. You can hang out your shingle and watch the clients flock in. When they do you must be careful how you deal with them.

What Does An Architect Furnish?

What you are supposed to furnish is clearly set forth in the A.I.A. document No. 177. Since you are or ought to be a member of the A.I.A. I will not take time to tell you, read it. 177, that's not your convict number, although later it may be, but document number, and although it tells you what to charge, try and get it. If you do you are good.

It is well to have all contracts in writing; it will save many headaches later. This sounds like a homily, but it is amazing how many architects do not obtain written contracts.

Our courts have said that as to your client you impliedly warrant that you have ordinary (not ornary) skill, knowledge and judgment possessed by men of your profession, and that you will us this skill, care and judgment in his interest, only with perfect honesty. If you fail to do so you are liable in damages to the owner for your negligence, for furnishing defective plans, wrong grades, or for delay in furnishing plans and supervision, or act in collusion with the builder to the hurt of the owner.

When You Cannot Collect

If you agree to furnish plans for a building which is not to exceed a specified cost and the estimates exceed this cost, then if the owner does not proceed with the work, then the amount you can recover for all your hard labor (on the plans and not in the structure previously noted) is exactly *nil.* However, if the owner does proceed and even if the cost is double you can only recover your commission on the specified cost. Do not attempt to furnish plans or supervision or both to the satisfaction of the owner. He is a lamb when he starts, but he goes out like a lion and so do you. Our laws say that if you so agree you are bound so to do. Try and recall how many satisfied clients you have, then all the others represent law suits in which regardless of whether you win, you always lose.

Who Owns the Plans?

Another queer quirk of the law; unless you contract otherwise, the plans belong to the owner. However, he can't use them over again without paying you double. For once the courts are on your side. The owner can stop the work at any time and you cannot compel him to complete or to pay you your contract price. The amount you can recover is determined by equitable principles. Did you ever hear of them? Well, they generally consist of the lost of profit and the expenses incurred by you, which you can prove in open court, not always an easy task. If your plans transgress statutory regulations and restrictions the owner can refuse to pay for them and our learned courts will agree with him to your detriment.

If your fee is on a commission basis regardless of the complicated nature of any extras you can only collect your commission on such work unless you have the foresight and forensic ability to obtain a written contract for such increased fees. However, the commission is based on the reasonable total cost of the construction, i. e., no chiselling is allowed to the owner. Another break for the poor architect.

A Contract Is Personal

Your contract with the owner is personal and for that reason your death terminates the contract. Nor can you delegate your authority to another. Also for these reasons a corporation cannot practice architecture because it is a profession and our courts have held that a corporation cannot practice a profession. If it does and has rendered such services, it cannot collect its hire under a contract to furnish such professional services.

Many architects are under the delusion that they can file a mechanics' lien on the building involved for their services rendered. Such is not the case; you can only lien the building for the actual value of your services rendered in and about the premises; that is, for actual supervision on the job, provided you have met all the technical requirements of our Mechanics' Lien Laws.

The usual building contracts provide for referring disputes to the architect or that the architects' decisions in such matters shall be binding. These words mean just what they say and are not subject to arbitration. In such a case the builder must do the work to the satisfaction of the architect. Where the architect has issued a final certificate it is binding on the owner and the builder if no fraud or collusion is present with either party. Making the architect sole judge of his own work has been held to be an unfair one. The A.I.A. contract provides for arbitration of the architects' decisions.

Yet our courts have said that no more suitable selection can be made than the architect who draws the plans and is to superintend the work. Our courts have said that he is certainly more competent to determine any difficulty that might arise than an (indifferent) jury, indifferently chosen and without requisite information or power to acquire it. You probably agree with our courts this time, yet so long as the human race is weak, it is far better to have an impartial judge.

As to the builder the architect is the agent of the owner and if the architect orders any extra work the owner is liable therefor, regardless of the provisions of the owner's contract with the builder as to any extra work.

Contracts With Public Authorities

When dealing with public authorities the architect must be extremely careful to see that all technical requirements are met. Thus in order to collect your money when due, an appropriation bill must be duly passed and the funds set aside or properly allocated. The experiences of two engineers are extremely elucidating, as the same thing might happen to any architect.

In that case, the borough was considering the enlargement of its water supply. At a regular meeting of the Borough Council in which the entire membership was present, Nuebling and Mast, Civil Engineers, were also present and discussed with the members present the present water supply and answered many questions. The President of the Council then asked whether they desired to engage Nuebling and Mast as engineers to prepare the plans and specifications for a new water supply. All but one voted yes. Later, the entire council, with the exception of one, present, visited the site recommended by the engineers.

Plans and specifications were prepared and on the strength of them a special election was held to ascertain whether a loan should be floated to pay for the new water supply system. The plans were approved and accepted by the Council. The engineers then presented them the bill for preparing these plans and specifications.

The bill, which was admitted as being fair and reasonable, was not paid and thereupon suit was brought. The defense was raised that the contract was an oral one and did not comply with the statutes which provide a formal mode of creating municipal contracts. The lower court entered a compulsory non-suit. Upon appeal, the Supreme Court of Pennsylvania sustained the compulsory non-suit, holding that the terms of such statutes are mandatory, and a contract which fails to meet the requirements prescribed is not enforceable against a municipality.

The recommendatiin therefore is that contracts entered into with public authorities should be in writing and should comply with the statutes and contain all the necessary signatures.

Two other recent cases are of interest. In one case an architect was employed by a county at a fixed salary and supposedly had regular working hours. Apparently he did a lot of work outside of working hours. He felt and I guess we all agree, justly so, that he should be compensated for this extra work. The court said that if the work was of the same character as that performed by him in his regular employment, even though the extra work was done at the order of his superior and with the knowledge of the county commissioners, there could be no recovery.

In the other case the County Commissioners contracted with the architect for plans and specifications for a public building. Preliminary plans were submitted and approved. Under our law it is necessary for such County Commissioners to submit the building project to our Courts of Quarter Session for approval. Until such approval is had the County Commissioners cannot contract for such plans. They can contract for preliminary plans as these would be necessary for the court to act intelligently. Under such circumstances it was held that the contract could be cancelled and all that the architect could recover was the reasonable value for preparing the preliminary plans.

It is therefore suggested that when dealing with public bodies that the solicitor to that body be consulted. He will always give proper advice in order to avoid any difficulties both for the body he represents and the architect.

In summary the use of common-sense and fair dealing will go a long way towards avoiding any legal difficulties. The balance of the way can in great part be eliminated by obtaining legal advice before and not after the difficulties arise.

NOTE: Much of the above and other related subjects are contained in a series of articles written in proper legal style and published in the Philadelphia Legal Intelligencer. A reprint of these articles can be had free by addressing The Legal Intelligencer, 222 N. 15th St., Phila., Penna., and asking for "When Your Client Builds" by Samuel I. Sacks, C.E.

Missouri Society Plans Annual Convention To Be Held This Summer

Victor H. Lyon, Jefferson City, Mo., has been named by President E. W. Carlton as chairman of arrangements for the second annual convention of the Missouri Society of Professional Engineers to be held this summer. Definite dates and plans will be announced later.

Under Lyon's leadership the convention should be a success as he has organized and worked with various local groups in many successful affairs. The various groups throughout the state should begin planning now to attend the convention.

The Engineer and His Relation to Government

By VANNEVAR BUSH

(Continued from March issue)

EDITORIAL NOTE: There is some objection in our membership to reprinting of articles unless there is special import in their contents. The Editorial staff pledges itself to minimize the number of reprints and welcomes articles on professional subjects from our members. With reference to this article, we feel the National Society of Professional Engineers is the strongest medium by which the objectives of this article can be adequately reached!

The technique of applying the pressure of engineering opinion on great public questions is only one aspect of our problem. Another aspect involves the advice by engineers to government on specific technical problems. This is a large question and one that involves many of us in one way or another, as citizens and taxpayers as well as engineers.

Government Needs Independent Consulting Engineers

That there is an elaborate mechanism by which government departments may secure the advice of scientists and engineers, has been shown. For several reasons, this is not sufficient for the purpose. First, the way is indirect, through an organization that is preponderantly scientific. With the best intentions in the world such an organization cannot function precisely and promptly to bring to bear on a great national engineering problem the best engineering brains to be had anywhere; only a few of the great engineers of the country are directly affiliated with it; and the indirect path is cumbersome. The complexities and inertia of this situation were overcome in time of war and in time of great depression, but during normal times the mechanism works feebly. Second, to wait to be called upon in a busy world is not enough, and the present organization has a natural and proper hesitancy to press itself into controversies. Third, the setting up of distinguished boards of review on a voluntary basis is not enough.

One cannot give sound advice on important engineering matters without spending considerable time and money. This is the function of the independent consulting engineer. We will not be on sound ground in this country until government, on a basis of adequate and dignified fees, calls for the opinions of independent consulting engineers whenever it has an important engineering problem, This is does not do at the present time to any determining extent. If, when the subject has been deeply studied and reports have been presented, the government wishes review by distinguished boards, it always will find men ready to give their services as a matter of public duty. The main reliance, however, must be upon independent consulting engineers, and I wish to make a plea on their behalf.

There are many engineers—many able engineers—in government itself, and these are utilized by government when it has an engineering project to carry out. Army engineers have carried forward on a high plane many outstanding engineering works. The Reclamation Service conducts a research laboratory that is second to none. But the government engineer is not an independent engineer and the latter is sorely needed. Given a definite project the government engineer can carry it forward; but he cannot at the same time say that it is a foolish thing to carry out at all, even if his engineering studies convince him that it is. Here is a point at which a democracy is at an advantage compared with an absolute government. The dictator has *only* government engineers—units in a rigid machine. Independence of thought and speech there cannot be tolerated. Yet, having the advantage as a democracy of the presence of engineers of real independence, we do not make use of them. This is partly because truly independent engineers are becoming rare; partly because unfortunately government is sometimes not anxious that the full truth be known; partly the fault of the engineers themselves. This matter is worth discussing briefly, for it is truly unfortunate if one of the great assets of a democracy is being thrown away.

The rise of great industries in this country, with their own engineering organizations, has restricted the field of operation of independent consultants. The tendency to extend free engineering services as part of the sales programs of large companies similarly has encroached. Fortunately, industry by and large cannot maintain engineering departments capable of coping with the unusual, and these peaks are surmounted by calling in the temporary services of independent engineering organizations. Yet the way of the consultant has not been easy, and the number of men who are truly independent, who have seasoned opinions based upon wide experience in many fields, is not large. This is distinctly the fault of government. There should be more utilization of men of the type of John F. Stevens called for service at the Panama Canal. If it were our practice in this country for government to employ independent engineers frequently, the number of such engineers would be greater. When government calls on the engineer at all, it usually attempts to do so on a niggardly basis. It appears to attempt to starve out a group upon which it distinctly needs to lean.

But part of the fault lies with engineers themselves. While we deplore any reluctance on the part of government to let the full light of reason play on its plans for engineering works, we must admit at the same time that the approach of engineers often has not been based upon a sufficiently broad consideration of these very matters. To show that a government engineering work will not pay an adequate financial return on the original investment is not necessarily sufficient to condemn it; yet engineers are prone to limit their considerations to a strict cost and yield basis. The building of a battleship cannot be justified on this basis. The setting aside of a national forest should not be thus approached with limited logic.

Do not think that I advocate letting down the bars of strict reasoning to which all engineering works should be subjected. I have no sympathy with any waste of public money. To build a great dam to supply electric power in a region already amply supplied with power, to irrigate land in a region of no inhabitants while farm land stands idle close by, to render navigable a stream that proceeds into a wilderness, are fool pieces of work in any language. Yet I would have the engineer join with the economist, the sociologist, the student of government, that he may grasp problems in their entirety.

Is it foolish to clear slums, and to cause living quarters to be built by subsidy from public monies, for the use of previous slum dwellers on a rental basis that returns only

a portion of the direct investment? It may or may not be, and the answer can come only when the engineer works with the sociologist. It may be a decidedly good investment on the part of the government from a strictly financial point of view, if the decrease in costs of police, health hazards, hospitalization, and social decay, which follow slum clearance, offsets the direct costs of subsidy. But merely because the problem involves more than the matter of direct costs and direct revenues, does not excuse government for proceeding without independent advice; it merely emphasizes the need for analysis by professional men of diverse types.

Consulting Engineers in Educational Institutions

Both government and industry should support the independent consultant in this country, that he may be available in time of need. A duty also rests upon our educational system in this same connection. This duty may rest lightly, for the consultant with university affiliations can bring strength to the educational system itself. Much has been said on this subject, and some would block consultation by members of college faculties. This always would be a catastrophe, but especially so at present when the consulting engineering profession needs to be enlarged and supported. Moreover engineering education must be real, conducted in an atmosphere of success, and in close contact with industrial and governmental advance; and the consultant on the faculty can aid greatly in this regard. There are dangers in the relationship, of course, but they can be avoided and the benefits secured. The use of the name of university affiliation, without the substance of educational duties and responsibilities on the part of the consultant, is a perversion. Encouragement of consulting by university administrations should be accompanied by insistence that such contacts be on a high plane and such as to advance the professional standing of both the individual and his institution. The fees charged should be on a dignified basis and such that there is no unfair competition with consultants who do not combine educational activities. There should be no use of university laboratories in consulting connections except where the institution is fully reimbursed for all costs of having the facilities present, and then only when there is no interference with the use of these facilities for their primary purposes. Educational institutions that have unique research facilities not available elsewhere, should make them available as far as possible without impeding educational use, either directly or through those commercial organizations which perform research services for industry. This certainly does not mean, however, that an educational institution should do routine testing for industry where there is a commercial organization capable of performing the work. Industrial research within an educational institution may be a fine thing, when it carries its full costs, when its results become published, and when its presence adds to the educational process of training men capable of coping with industrial research problems after graduation. But neither the educational institution itself, nor the consultant who is a member of its faculty, should carry on activities that tend to lower the plane of independent consultants or independent commercial research laboratories. When these matters are realized, the presence of a consultant on a faculty may be of benefit to the institution and render available one more independent engineer for advice to government and industry.

There are many ways in which the individual engineer makes contact with government, and several in which a more intimate contact would be of benefit. One important way lies in the growth of the commission form of activity. These commissions usually, as in the case of the Federal Communications Commission, the United States Shipping Board, and the Tariff Commission, are essentially groups of experts within the frame of government itself. So also are such units as port authorities, irrigation district authorities and the like, set up within our still flexible frame of government to unite the administration of regions having common technical character. These and similar units offer one promising mechanicism by which to implement the specific actions of government in technical affairs. The engineer is an important member of all such bodies. By and large they have been decidedly effective. An important element, however, appears to be generally lacking in the movement. Usually such boards depend upon the technical knowledge of their own membership, supplemented only by the examination of witnesses who come before them. They are not amply enabled, by the act which establishes them, to increase their grasp and power by temporarily joining to their membership outstanding consultants with special knowledge of the particular problems before them. The independent engineer would find in such association many opportunities to be of genuine service.

Engineers and the Legal System

Another important way in which the engineer makes contact with government is in connection with the legal system, both in law enforcement and in the administration of justice in the courts. This is too large a matter to be treated adequately in an address having a broader subject, yet the point comes up inevitably. There is a real need for close association of scientists and engineers with the legal system at many points, especially in the patent system. The reason is clear. The determination of any legal question depends jointly upon the law and the facts. In a modern technical world the facts are beyond the comprehension of the layman. When dealing with a scientific or engineering subject, the most eminent jurist or attorney is usually decidedly a layman. The result is often sad. Decisions are rendered by judges to whom the facts of a case are in essence incomprehensible. Present procedure is expensive, indeterminate, and sometimes ludicrous. Details of procedure aside for the moment, the real reason for this situation is the unwillingness of the legal profession to admit to a basis of partnership the scientist who understands the technical facts of modern civilization, with the attorney who understands the law. We have the spectacle of opposing experts, cross-examined by lawyers who have a week's cramming as a background in the subject under consideration, for the benefit of a judge whose scientific training ended at "Physics I." The childlike faith of most attorneys in this process of elucidating technical facts is beyond comprehension. To the technical man on the sidelines it is often evident that the discussion proceeds to about page 20 of an elementary text, when the true answer lies on page 500 of an advanced treatise. The general atmosphere, charged with suspicion, progressing at a snail's pace, is such that the majority of scientific men engage in legal matters just as little as possible. To expect men of great scientific attainment generally to be willing to take part in this procedure is expecting a great deal from the human race. Yet the members of the legal profession generally regard the presence of a technical adviser to the court, not subject to cross-examination, as an anachronism, and they are perfectly sincere and honest in the opinion. The dilemma is clear. The legal profession, which controls the system, cannot itself or through its artifices deal justly in the type of world in which we now live. It will not have the true co-operation of the best scientific and engineering minds in expeditiously arriving at justice until it welcomes them to something besides a subordinate status. In some of its phases, the legal sys-

tem has been dangerously close to breakdown, and no small portion of this situation is the extent to which it is bogged down in a scientific morass. If breakdown comes, it will be the fault of the profession that molds its affairs and determines its form. Scientists and engineers stand always ready to aid in a matter of public concern and on a basis of professional partnership. In this connection the independent consulting engineer can be of real service in many ways, but space does not permit a detailed examination of them.

Throughout this address I have emphasized the value of independence. So long as this is maintained and there is the effective guidance of affairs by an independent professional class, I have no fear for the future. A true democracy, given this support, can compete with dictatorship and prevail.

Frontiers of Science Still Remain

It was independence of thought, freedom of action, the opportunity of a vast untamed domain that built this country and gave it the highest standard of living in the world. The geographical frontiers have disappeared, but the frontiers of science and technology still remain. Those qualities which built a trail into the wilderness can still build trails in the technological advance. The same qualities of courage, resourcefulness, and independence which opened the nation, are as necessary today as ever.

The growing complexity of life tends to make men cogs. The world is growing smaller, and it is becoming crowded. We "rub elbows" and find increasing dependence upon the activities of our fellow men. The race for economic domination becomes a race, from which we only partially are separated, for military supremacy. The burden on government increases, and the problems arising are more and more beyond the true comprehension of the proletariat. Intense nationalism is in the saddle, and everything, including freedom itself, toward which the human race always has aspired, is being sacrificed for a momentary advantage in the struggle. Nations are turning toward absolutism as a refuge.

Gladstone predicted the decay of democracy if the indigent voter found the power of his vote sufficient to seize arbitrarily and unreasonably the fruits of production. Jefferson himself, the father of American democracy, postulated as a necessary feature of a democratic régime that the bulk of the voters must be tillers of their own land. Whatever we may wish to modify in these opinions, one thing should be added in view of modern conditions. As the social machine becomes more complex and interdependent, it becomes increasingly easy for an aggressive group to disrupt it. The need for discipline is greater, the necessity for restraint of the asocial individual or group is more pressing. Individual freedom, always circumscribed, from the clan up, by the necessity of consideration of the rights of others, becomes inherently narrowed. The right to do this or that ceases to be a right when its performance injures a neighbor; and the ways in which each individual's acts reflect upon the security of his fellows are constantly multiplied. The democratic form of government is adapted to the maintenance of discipline only to the extent that great groups of varied peoples are ready and willing to discipline themselves. The failure to do so in other countries is the primary reason that the people have reverted to absolutism in the hope that it would prove benign. The immediate result of course, has been to impose discipline, often harshly and in the extreme, to curtail radically individual freedom, and thus to create a state in which efficiency is secured at the sacrifice of much that makes life worth living. The plunge into absolutism is abrupt. The winning of individual liberty is a slow and painful process. Must all democracies go through this cyclic process? Can the great populace, which is governed by its intuitions, its emotions, its mass psychology, grasp this trend and preserve its stability? Moved by the persuasion of those with ulterior interests, who play upon their emotions, can they yet understand the voice of reason? It depends upon whether those who would bring to the people the accumulated wisdom of the ages speak in words that are powerful, genuine, and capable of being truly understood; and then it depends only upon whether the people listen and are willing to be guided by reason.

Professional Man Should Make Himself Heard

The free operation of professional classes, motivated by public zeal and altruism, is an anchor upon which our democracy depends to hold it through the storm. There is a great obligation upon the professional man to speak clearly, to insist upon being heard, to maintain his independence. This obligation rests heavily upon engineers.

Summarizing the training procedures discussed in the preceding part of this paper, we can say that the college graduate is afforded an opportunity, through lectures and conferences, actual work and observation, to gain a general knowledge of the work and scope of the plant and to fit, eventually, into the right place. During the training period, varying in the number of years, the individual is routed within and between departments. In this way, he acquires a comprehensive idea of the whole plant and its inter-relationships. During this period he is definitely determining, with the aid of his supervisors and the training staff, the phase of the business in which he will best serve himself and the enterprise.

Modern machinery and equipment are essential, but trained workers to supplement these improvements are equally important. Through a training program, any industry can hope to lead the way toward a better product, by virtue of the provision of better personnel.

(This address was presented before the Pittsburgh Chapter, Pennsylvania Society of Professional Engineers, in February).

Training Engineers

(Continued from page 7)

Some of the main types are: Method Studies, Cost Analysis and Investigations, Job Evaluation, Time and Motion Study, Wage Incentives, Organization, Theories, Charts and Plans, Controls—Standard, Budgeted Cost and Routing and Specific Projects.

In addition to this day-to-day experience, for a period of approximately six months the group is assembled bimonthly for a two-hour discussion of the various operating units. Interest has been unusually high and men and management are well pleased with the results.

A third plan is devised for those who would perform the duties of mechanical, electrical and civil engineers. Two classes of personnel are involved in this plan; namely, high school graduates and college graduates. For the high school graduate, his training will be a combination of appropriate practical experience through the day and study in the evenings at one of the colleges in the district. The college graduate training will be accomplished by following a definite plan of day-to-day experience. All phases of work in each branch of engineering will be covered, and, if a particular plant does not make possible experience in any phase, arrangements will be made for temporary transfers to another plant at which the experience may be obtained.

Day-to-day experience, or the experience on the job, will be a combination of duties involving office as well as field work.

NEWS OF STATE SOCIETIES

EDITOR'S NOTE: If your State Society is not represented in this month's news, contact your State Secretary and ask him to send monthly information to the editor. Please put THE AMERICAN ENGINEER, 222 North Third Street, Harrisburg, Pennsylvania, on your mailing list for all chapter and State Society Bulletins.

CONNECTICUTT

President—ALLEN HUBBARD

Secretary—LEWIS C. SMITH

The Annual Meeting of the Connecticut Society of Professional Engineers was held at Race Brook Country Club, Orange, Connecticut, Saturday, March 26th.

There were two sessions—the first in the afternoon, for the purpose of transacting the Society business and the election of Officers for the ensuing year, and an evening session, to which all registered professional Engineers were invited, whether or not they belonged to the Society. At the latter session, there were two outstanding guest speakers.

Allen Hubbard, President of the Society, arranged to have State Labor Commissioner Joseph M. Tone speak on the relation of his Department, in its handling of labor and unemployment insurance problems, with the Professional Engineer, who is frequently on the employment side of the many questions now confronting it.

Because of the unemployment insurance law going into effect with so many men and women unemployed, Mr. Tone's entire Staff has been forced to work days, nights, weekends and Sundays in an attempt to get out the hundreds of thousands of unemployment checks.

The problems of his Department are tremendous and the outline of the work being done by him and his aides is of great importance to the Professional Engineer.

The second speaker of the evening was Mr. Harry Marsh, Director of Personnel of the State of Connecticut. The Personnel Department set up by the last session of the General Assembly has caused widespread comment in the State, especially among Engineers. The Governor of the State, in going outside of Connecticut to procure a Commissioner to handle this new and important Division of the State government, disappointed a great number of his followers. However, his selection of Mr. Marsh seems to have been an excellent one and the manner in which the examinations have been held to date has apparently justified his choice.

Mr. Marsh spoke on his Department and the ways in which the merit system will apply to the selection of employees for State positions in the future.

The Connecticut Society of Professional Engineers is the youngest Engineering Organization in the State, membership in it being limited to Engineers who have successfully passed the requirements of the State Board of Registration for Engineers. The men belonging to the Society cover all branches of Engineering—Civil, Mechanical, Chemical, Aeronautic, Electrical, Heating and Ventilating. Under our present laws, anyone who does not possess a registration certificate from the State will not be permitted to practice any branch of engineering unless he works for the State or a Public Utility, or unless he is employed by a Registered Engineer.

DISTRICT OF COLUMBIA

President—VIRGIL C. WAGNER

Secretary—WILLIAM L. BACH

The February meeting of the District of Columbia Society of Professional Engineers was held in the Meridian Room, 2400 Sixteenth Street, N. W.

Prior to the regular meeting an instructive and pleasant hour was spent, by some 60 members and guests, enjoying the showing of two sound motion pictures "The Golden Gate Bridge" by the Bethlehem Steel Corp. and "Okonite" by the Okonite Co.

The regular meeting, following this, was opened by Pres. Wagner who briefly programmed the activities and plans that have been made for the Society for this year. Entertainment, Membership, Employment and other committees reported on their activities. Engineer Dunham, Chairman of the Publicity Committee sketched the program being used to bring the District of Columbia Society before the public. This is being accomplished in part by regular mailing of notices to the interested Governmental Departments and Agencies, newspapers, technical and trade magazines and local utilities.

The Treasurer's report by Engineer Steuber followed.

Pres. Wagner announced with regret the untimely passing of Engr. Winfred Morrill, one of the supervisors of the D. C. Society. To serve his unfinished term, the Board of Directors appointed Engr. Schwenke.

Engineer Dunham moved that inasmuch as the Secretaryship of the Society involved many arduous tasks and in view of the fact that a salary at this time was not possible, the D. C. Society shall tender the incumbent secretary one year's membership following his term, and that this action shall be retroactive. This was unanimously passed.

Engineers Simpson, Steuber and Simm expressed their views on the National Society in its relationship to the member societies following Engineer Simpson's recounting of the National Directors meeting held in Washington, D. C. Pres. Wagner told of a recent trip to the State of Tennessee where they have a License Law and of their preparations to become a member state of the National Society.

JOHN W. DUNHAM,
Chairman, Publicity Committee.

ILLINOIS

President—W. P. WALRAVEN

Secretary—H. E. BABBITT

Plans for new efforts to establish a licensing system for engineers in the State of Illinois were discussed at a conference recently in Urbana, Ill., attended by Willard S. Conlon, Washington, D. C., executive secretary of the National Society of Professional Engineers; officers of the Illinois Society of Engineers and its Champaign county chapter.

As the first step in its proposed expansion to build a professional organization "on a par with the medical and bar associations," the state society intends to secure the introduction of a licensing bill in the next session of the legislature.

Want State Board

The National Society of Professional Engineers, Mr. Conlon promised, will assist in the campaign for enactment of this measure by furnishing advice, data and other service.

A state engineering registration system similar to those in medicine and law will be sought by the Illinois society. The proposed bill will provide for the creation of a state licensing board which would conduct examinations and admit candidates to practice the engineering in all its branches. At present only structural engineers are licensed in the state.

To Restrict Profession

This system is designed to "restrict the profession of engineering to those qualified to protect the interests of the public," Mr. Conlon explained, adding:

"The National Society of Professional Engineers has no quarrel with operating engineers in Illinois or other states; our relations with operating engineers have been most cordial."

Main purposes of the national organization, of which the Illinois is one of state member societies, are to achieve "a better adaptation of engineering to the service of society and to make the engineer conscious that he is first a citizen and second an engineer."

State President Here

Other mutual interests and problems of the state and national society were considered in the conference, which followed a dinner in the club. W. P. Walraven, Springfield, state president, took part in the discussion, and others attending were Prof. H. E. Babbitt, state secretary; Fred Lohmann, vice-president of the Champaign county chapter; C. V. Erickson, secretary-treasurer of the local chapter; J. A. Harmon, representing the Illinois Engineering council; Prof. W. M. Wilson, Prof. G. W. Pickels, and Prof. W. C. Huntington, leaders in the local chapter and state society.

INDIANA

President—SULTAN G. COHEN

Secretary—J. V. SMYTHE

I. S. P. E. News Letter
Issued by the Indiana Society of Professional Engineers, Inc.
Editor: E. W. Watkins
Operations Mgr. W. A. Miller
Circ. Mgr. G. L. Knoll

FORT WAYNE CHAPTER ORGANIZED

With more than one hundred engineers present at the organization meeting in Ft. Wayne, the Ft. Wayne Chapter of the Indiana Society of Professional Engineers was organized as the third local chapter in the state. The sponsors of the meeting, Engr. Clyde Walb, Harry Gottschalk and Roy

Biberstine, felt amply rewarded for their efforts with this splendid turnout of engineers.

The dinner and meeting were held in the Ft. Wayne Chamber of Commerce. Engr. Harry Gottschalk ably presided as toastmaster at the dinner at which the principal speaker was Engr. Perry T. Ford, vice-president of the National Society of Professional Engineers. Ford gave a very inspiring and instructive address.

At the business session, following the dinner, a temporary organization was perfected with the following officers; Clyde Walb, president; Harry Gottschalk, vice-president; Fred B. Mendenhall, secretary and C. R. McAnliss, treasurer. The Ft. Wayne Chapter plans to embrace the counties of Allen, Noble, Lagrange, Steuben, Dekalb, Kosciusko, Whitley, Huntington, Wells and Adams. With this large territory to draw from, the Ft. Wayne Chapter threatens to rival in attendance the meetings of the State Chapter at Indianapolis.

HALLETT HEADS INDIANA ENGINEERING COUNCIL

Engr. J. T. Hallett, traffic engineer of the State Highway Commission of Indiana, was elected president of the Indiana Engineering Council at the annual meeting in Indianapolis, in February.

Hallett, a graduate of Rose Polytechnic Institute, has been with the State Highway Commission since its inception. One of the founders of the Indiana Society of Professional Engineers, he is at present chairman of the Committee on Ethics and Practices of the Society.

OFFICERS ATTEND OHIO SESSION

Pres. Cohen and National Director Carter attended the banquet session of the annual meeting of the Ohio Society of Professional Engineers at Columbus, Ohio. The Ohio meeting was a three day session attended by over 1,500 engineers.

The banquet session, a very impressive affair attended by over 700 engineers, had as guest of honor Governor Davy of Ohio. Pres. Cohen extended the greetings of the Indiana Society.

NOMINATING COMMITTEE ELECTED

A nominating committee was elected to prepare a slate of candidates for the annual election of officers of the Society. The nominating committee consists of Engr. W. W. Hadley, chairman, and Engrs. J. E. Loer, Indianapolis, Boyd Phelps, LaPorte, Roy Biberstine, Ft. Wayne, and L. R. McLain, Indianapolis, members.

Officers to be voted on will be a president, two vice-presidents, secretary, treasurer, national director and two directors of the State Society. The remaining four directors were elected last year to either two or three year terms.

I. E. C. MEETING HAS RECORD ATTENDANCE

With the largest attendance in its history, the Indiana Engineering Council held its annual meeting at the Lincoln Hotel in Indianapolis in February. Meetings of the member organizations were held in the morning with the general sessions in the afternoon. The annual meeting closed with the banquet in the evening. Speakers at the convention included M. R. Keefe, Chief Engineer of the State Highway Commission, Prof. C. A. Ellis of Purdue University, R. V. Achatz, member of the board of registration for engineers, Amos Germaine of the Westinghouse Electric and Mfg. Co. and L. W. Wallace, director of research for the Crane Company.

ST. JOSEPH VALLEY CHAPTER HOLDS SECOND MEETING

Upon invitation of the newly formed St. Joseph Valley Chapter of the Society, Pres. Cohen and Enforcement Chairman Don Walker attended the second meeting of the chapter recently in South Bend. The chapter is wasting no time in getting down to serious business and, with enforcement problems at hand, Chairman Walker was called on to outline the proper procedure in such cases. Engr. Walker gave them valuable assistance and cited some of the cases handled by the State Chapter.

NO TIME FOR POLITICS

Many a man attaining an elective public office owes his success to the more qualified individuals who, heedless of the call to serve, had "no time for politics." This Society has neither the intent nor the desire to enter the field of politics, but it is interested in seeing that the Engineer assumes his share in the planning of policies and legislation that involve the social and economic well being of all the people.

Too often, the long term welfare of the people is lost sight of in the political exigency, and tomorrow's general welfare is bartered for today's votes. The Engineer, trained by education and practice in the relations between cause and effect, action and reaction, is well qualified to weigh the effects of present day legislation with regard to future benefits.

Without regard to party, we should have candidates from the professional engineer's ranks for the state legislative bodies. It is our responsibility to see that there are registered engineer candidates for the offices of city and county engineer in all localities of the state. The Engineer, who through "no time for politics," turns down the request that he allow his name to be presented for office is failing to uphold his duty to his profession and to his state.

HIGHWAY COMMISSION STUDY REPORT DISCUSSED

At the February meeting of the Society, considerable time was devoted to a discussion of the report of the Highway Commission Study Group, which report was submitted to the Society late last year.

Engr. J. T. Hallett stated that there was considerable dissatisfaction among the engineers in the Bureau of Traffic due to the failure to list traffic bureau positions in the report. At the time of the submission of the report, the committee did not have sufficient data on this department, which is a comparatively new department of the Highway Commission, to rate the positions on the basis of comparisons with other states.

Upon recommendation of Engr. E. G. Wetzel, and the approval of the Society, the Committee on Study of the Highway Commission agreed to make a supplementary report covering positions with the Bureau of Traffic.

REGISTRATION BOARD TO RECEIVE COMMITTEE REPORT

Chairman W. J. Boatright, of the Committee for Registration Board Contacts, reports that his committee is working on the preparation of recommendations to be submitted to the Registration Board. The report of the committee will set out the need for an educational program and statistical survey among engineers throughout the state, and will recommend an emergency appropriation to provide the funds that will be required to carry on this work. The report will be submitted to the Board at the next regular meeting.

A regular meeting of the Indiana Society of Professional Engineers was held March 17th in the World War Memorial Building in the city of Indianapolis, 7:30 P. M.

MISSOURI

President—E. W. CARLTON

Secretary—W. H. MCDILL

ENGINEER BARDSLEY VISITS NATIONAL HEADQUARTERS

Engineer C. E. Bardsley, of Rolla, and Vice-President of the National Society, made a trip to Washington and New York recently. While on this tour he made a visit to the headquarters of the Society in Washington where he enjoyed a long discussion with Engineer Willard S. Conlon, Executive Secretary.

Engineer Conlon was enthusiastic over the report of the progress of the Missouri Society. He stated that he expected this group to stand out in progressive activity in the work of the organization in the middle West.

While in New York, Engineer Bardsley visited the office of Engineer Arthur V. Sheridan but did not find him in. Engineer Sheridan has recently been appointed as a member of the New York Plan Commission, a very important post, and one in which Engineer Sheridan is the first of his profession to participate.

ROLLA GROUP DOES MISSIONARY DUTY IN KAN. CITY

Engineers Carlton, Butler and Decker made good use of their time while at the convention of the Highway Engineers in Kansas City. They spent most of it with engineers who wanted to know more about the Missouri Society. The interest that these three awakened there will, no doubt result in a rapid increase of applications from that territory.

CHAPTER ORGANIZATIONS ARE BEING CONSIDERED

Groups of members in various communities have indicated their interest in the organization of Chapters. This is welcome news because the chapters are a very vital part of the organization and their early start will contribute to the success of the Society.

There has been some question in the minds of those interested in chapters as to just what ought to be done first. The Constitution of the Society provided for chapters and describes briefly the type of structure they should have.

For those groups who do not wish to set up a permanent chapter organization, at first, it is suggested that a trial arrangement be worked out and when the group has proved its interest and worth it can be converted into a chapter. This trial set-up could consist of a committee of three or five members who act or can act as provisional governors of the chapter and also act as chairman of the vital committee necessary to keep interest alive.

There should be at least three committees—membership, entertainment, and financial. These three could handle the vital affairs of any group.

It is suggested that these provisional chapters be started without regular dues other than a small amount to care for postage and stationery. The activities of the group, at first, should all be planned to be self-liquidating. The range of activities is unlimited and should provide both mixed and stag affairs. The Society is concerned with the social well-being of the engineer and any and all social activities can properly be sponsored by the chapter.

Those in each group should not be reluctant to name the ones whose special interests and talents make them natural leaders for various activities. Pick these fellows out and tell them to plan some activity for the whole group and then get in behind them and support them. You will find soon, that your chapter can be the center of most of your social affairs.

ADVERTISING

The News Letter has been changed to *The Missouri Engineer* and it is planned to accept all legitimate advertising to help defray the costs. Rates and specifications may be had upon request to W. H. McDill, 208 Merchants Bank Bldg., Jefferson City, Missouri.

NEWS OF ENGINEERS

Geo. A. Hale, Richmond Heights, reports that he is now engaged with the Coal Exchange of St. Louis and the St. Louis Stoker Association. Hale operates the Geo. A. Hale Laboratories, Consulting Chemists, at 7335 Arlington Drive, St. Louis.

L. W. Corder, formerly of Kansas City, is now in Jefferson City working as Engineer of Markers.

Murray W. Ayres, of Anderson, was a visitor at the Missouri Highway Engineers Association meeting.

A. A. Farnham, of Farmington, reports growing interest in the Society among the WPA Engineers.

V. M. Roloff, of Kirkwood, is one of those doing his bit by sending in numerous applications from his friends.

H. M. Brush, and *Hugo P. Schrimpf* of Macon, each sent in four new applications in one week.

F. J. Shields of St. Joseph, visited the Highway Engineers meeting in Kansas City and asked us for a lot of applications.

C. J. Jasper, of Hannibal, sent in two new applications for us and asked for more blanks.

SHOULD KEEP POSTED ON HIGHWAY PROGRAM

It was observed at the meeting of the Highway Engineers in Kansas City that one of the principal duties of the engineers of this state at the present time is to know the facts concerning the highway program and be able to explain to the people of their community just how the highway program effects them.

It was brought out in the meeting that the highway program concerns directly one out of every seven people in this state and one dollar out of every five that is spent is spent for highway or automobile use.

Highway building is a big business and as engineers we are all vitally interested in it. We should as citizens, take a greater interest in it and see to it that the people of our community are properly informed about the highway program.

NEW MEMBERS

John W. Cook, Jr., Fulton.
E. G. Harris, Rolla.
C. H. Black, Rolla
Jerome R. Wollman, Jefferson City.
Daniel Kennedy, Rolla.
Chas. C. Juhre, Rolla.
W. J. Ferguson, Kirkwood.
W. J. Eddlemon, Hannibal
James D. Tribble, Jefferson City.
E. J. Treanor, Kansas City.
R. W. Vincent, Camdenton.
Harry R. Conn, Sedalia.
D. P. Richart, Hannibal.
M. S. VanDevanter, Arcadia.
W. R. Caldwell, Trenton.
B. Hudgins, Milan.
J. L. Dickson, Brunswick.
Abner Gwinn, Brookfield.
C. W. Eshbaugh, Macon.
B. M. Baker, Macon.
K. R. Baker, Salisbury
V. H. Schroeder, Macon.

Welcome all! And may each one of these produce one more.

If each state member would go out and get at least one new member between now and July 1, we would be on the high road to success in gaining our objectives. Remember—"Together we stand, divided we fall."

Only a few more months and we will be a year old! We should be over the 500 mark by the time we have our next convention.

NEW YORK

President—ALFRED E. ROCHE

Secretary—W. A. STUBBS

The annual meeting of the New York County Chapter of the N. Y. State Society Inc. of Professional Engineers, at which there was an election of officers, was held on the 26th floor of 2 Park Ave., New York City, Tuesday, March 29, 1938 at 8 P. M.

In addition to the election, there was a talk on the Relationship of Banking to Engineering Projects by Louis Gurock, Assistant Treasurer of the Continental Bank and Trust Company of New York.

Preceding the meeting there was a dinner at 6:30 P. M.

On Wednesday, March 30, 1938, there was a joint meeting with the Metropolitan Section of The American Society of Mechanical Engineers and The Municipal Engineers of the City of New York. The meeting was held at 8 P. M. in Room 501 of the Engineering Societies Building, 29 West 39th Street, New York City.

Subject: "Design and Construction of the Henry Hudson Parkway."

Speaker: Emil H. Praeger, Chief Engineer, Madigan-Hyland, Consulting Engineers.

The speaker who is a member of our Chapter, described the extension of the West Side Express Highway north of 72nd Street through Riverside Park, Washington Park, Inwood Hill Park, and the Spuyten Duyvil section to the New York City line. The lecture was illustrated with lantern slides.

A LETTER

Department of Audit and Control,
Morris L. Tremaine, Comptroller,
State Office Building,
Albany, New York.

ATTENTION: Mr. Henry F. O'Brien.
Chief, Bureau of Municipal Accounts

Dear Comptroller:

In your examination of the fiscal affairs of towns, villages and cities, it is petitioned that a verification of payments to personnel be made, as well as, payments pertaining to the purchase of supplies, equipment, and materials.

Recently towns, villages and municipalities have been engaging services of men to perform a class of work which the State now demands be performed by engineers. In my opinion the town officers are not familiar with the recently enacted law which prohibits the engagement of services, for the performance of work of an engineering character, if the man whose services are so engaged has not been qualified by the State for the practice of engineering.

It is well known that no town, village or city engages the services of a man for legal work, who has not been admitted to the bar; nor do they engage the services of a physician who is not licensed by the State to practice medicine; nor should they engage the services of a man, for work of an engineering character, who has not been licensed by the State to practice engineering.

Article 55, Section 1450 of our laws states, "It shall be unlawful for any person to practice engineering in this State or to use the title 'engineer' unless such person has been duly licensed under the provisions of this article....No official in the State, or of any city, town or village therein, charged with the enforcement of laws, ordinances or regulations relating to the construction or alteration of buildings or structures, shall accept or approve any plans or specifications that are not stamped with the seal of a licensed architect or licensed professional engineer. No city, village or town shall undertake any class of work wherein the life, health or property of the citizens are involved in the construction, improvement or maintenance of a road or of any public work, the contemplated expenditures of which exceeds $5,000" unless such person shall be licensed by the State for the practice of the engineering profession.

It is believed that the expenditure of funds for village, town and municipal improvements will be automatically lessened, and the benefit to the taxpayers increased if the officers of the town, village and municipalities engage competent engineering services for such work.

We would appreciate it if you would call to the attention of the officers of the towns, villages and municipalities, the penalties attached to the engagement of services for public improvements when such service is not rendered by an engineer licensed by the State. We offer the assistance of this Society in helping you and the tax-payers in seeing that the statute is neither infringed upon nor ignored.

The names of engineers licensed by the State, are published annually by the Department of Education and procurable without expense.

Cordially and sincerely yours

ALFRED E. ROCHE, *President*
New York State Society of Professional Engineers.

The BRONX COUNTY CHAPTER of the New York State Society of Professional Engineers held its March meeting at the Concourse Plaza Hotel.

The meeting was featured by balloting on Amendments to the constitution and by-laws and the election of officers. The following members were re-elected to office for the next year: Rudolph Lang, President; William Arctander, Vice-President; H. McKean Connor, Secretary; and Solon Friedeberg, Treasurer. Charles H. Martin, Samuel Cooper, J. R. Kinney, and Waldemar Polack were among those admitted to membership at the meeting.

Engr. Walter Federlein reported for the Age Discrimination Committee and Engr. Abraham Slavin for the Building Code Committee. The Chapter Activities Committee reported much enthusiasm on the part of its bowling devotees. During a discussion on pending legislation City Planning Commissioner Arthur V. Sheridan and Engr. Raphael Smyth, Acting Chief Engineer of the Bronx explained the workings of the Torrens Act and other matters of interest.

Professor Alexander Haring spoke of the wide interest displayed in the essay contest conducted by the Chapter on the subject "What Civic Improvement Would You Propose as the Most Beneficial to the Borough of the Bronx?" The contest closed March 31 with Joseph B. Diamond in charge of entries.

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NEW YORK STATE SOCIETY OF PROFESSIONAL ENGINEERS, Inc.

Legislative information to
Engineers and Architects.

H. F. LAME, *Representative*

Editor's Note: This is the latest of the splendid legislative bulletins for this session thus far received. One more is to follow.

Volume 1, Bulletin 8, Page 1
March 14, 1938

State Society Officers and Directors
Metropolitan Section, A. S. C. E.
Metropolitan Section, A. S. M. E.

Both the Senate and the Assembly have agreed upon March 15th as the date for adjournment It is felt in various quarters that this is impossible and that the actual adjournment will probably be Friday of this week or some time during the early part of next week.

There are two adverse bills remaining to be disposed of to which further opposition should be directed. Those bills are the Crews bill, Intro. 2235, Print 2670 to amend the Education law in relation to licensed professional engineers; the McNaboe bill Intro. 179, Print 2063 and the Companion bill, Dollinger Intro. 2268, Print 2703.

As all the assembly bills are now in the Rules Committee, it will be necessary to direct letters to the members of this committee as shown at the bottom of this sheet.

A meeting was held with the sponsors of the McNaboe bill with partially satisfactory results. It is felt that had there been more time in which to study both sides of the question, a bill acceptable to all parties could have been drafted. The redraft of this bill which will be found in this bulletin, is still unsatisfactory and must be opposed in view of the principle involved, which is that of restriction to professional practice.

There is no difference of opinion in regards to the objectives.

This bill, if enacted into law, will be equally as undesirable in its application to the proponents as to the opponents. In recommending continued opposition to this bill, your legislative representative will continue to strive for a bill which will fully compose the existing differences of opinion as to how to equitably accomplish the desired objectives.

RULES COMMITTEE

Heck of Schenectady	Piper of Erie
Ives of Chenango	Reoux of Warren
Wadsworth of Livingston	Thompson of Orleans
Hall of Nassau	Todd of Westchester
Newell of St. Lawrence	Steingut of Kings
Moffat of New York	Hayes of Albany
Bartholomew of Washington	Pack of Bronx
	Killgrew of New York
	Minkoff of Bronx

Senate Intro. No. 1686, by Mr. Feld—Education Committee

New Bill.

An act to amend the education law, in relation to the practice of architecture.

Section 1. Section fourteen hundred seventy-six of chapter twenty-one of the laws of nineteen hundred nine, entitled "An act relating to education, constituting chapter sixteen of the consolidated laws," as amended by chapter one hundred forty of the laws of nineteen hundred ten, such section having been added by chapter five hundred seventy-two of the laws of nineteen hundred twenty-nine, and last amended by chapter three hundred thirty-three of the laws of nineteen hundred thirty-three, is hereby amended to read as follows:

Sec. 1476. Licensed Architects. 1. In order to safeguard life, health and property, no person shall practice architecture in this state, or use the title architect ***** drawings and specifications, prepared by such architect or under the supervision of such architect, shall be stamped with the said seal.

No official of this state, or of any city, town or village therein, now or hereafter charged with the enforcement of laws, ordinances or regulations relating to the construction or alteration of buildings or structures, shall accept or approve any plans and specifications that are not stamped with the seal of a licensed architect or a licensed professional engineer, (NEW MATTER BEGINS HERE) nor shall any public official issue a certificate of occupancy for any building or structure or alteration thereto or authorize use of such building or structure or alteration thereto unless an architect or a professional engineer duly authorized to practice in this state, or a superintendent who can prove ten years' experience as a superintendent of construction shall have certified that he has supervised the construction or alteration and that it has been properly performed in full compliance with the approved plans and specifications and the governing codes and ordinances.

Comment This bill has been hastily drawn. It is incomplete. It may conform to the Code requirements of the City of New York. It does not give sufficient consideration to the practice outside the City of New York where a similar type of supervision is unavailable. It provides an encroachment upon the existing practice act. If a similar requirement exists in the new Code of the City of New York, it is still untested and therefore should not be given consideration at this time as a favorable factor looking towards the modification of the law.

There are superintendents of construction and there are architect's and engineer's superintendents. Until the proper definition has been arrived at, this term is ambiguous when used in this part of the practice act. Once this becomes law, it will be very difficult to correct. It would be simpler to correct the new Code.

Until this bill is amended or until such time as the new code is revised, a conservative attitude should be maintained in regard to this bill.

A further report will be issued at a later date following todays conference with the representative of the architects.

LEGISLATIVE ACTION ON APPROVED BILLS

To require professional supervision of construction.

Desmond—Senate Int. 102, Print 102, 1358
—Education Committee
Feb. 21, Amend and recommit.

To require county engineers to be licensed professional engineers.

Miller, Senate Int. 244, Print 245—Internal Affairs Committee
Feb. 24, 3rd reading—Feb. 28, passed
Mar. 1, Assembly Internal Affairs Committee

Sherman, Assembly Int. 329, Print 329
Mar. 2, Amended and reported—Mar. 10, Killed

Public Projects Efficiency Law.

Desmond, Senate Int. 103, Print 103—Judiciary Committee. No action.

To reduce the present size and cost exemptions of structures requiring engineering or achitectural services.

Dunnigan, Senate Int. 369, Print 374—Education Committee
Mar. 2, Reported out of Committee. On general orders
Mar. 3, Passed—Mar. 4, Assembly Education Committee
Mar. 9, Killed

To Eliminate troublesome and inconsistent exemptions from the present licensing law.

Feld, Senate Int. 664, Print 694, 2058—Education Committee
Mar. 1, Reported out of Committee. On general orders. 3rd reading
Amend and recommit—Print No. 2058
(See page 4 for last amendments)

To require heads of State engineering departments to be licensed professional engineers.

Averill, Assembly Int. 516, Print 525, 1211, 1351—Ways and Means Committee
Feb. 8, Reported amended
Feb. 21, Passed in Assembly
Feb. 22, Senate Finance Committee

To require public work for the State and for counties, cities, towns, and villages to be done by licensed professional engineers.

Feld, Senate Int. 663, Print 693—Education Committee
Mar. 1, Reported out of committee. On general orders. 3rd reading

To remove present age limitations for employment in technical or professional civil service positions.

Dollinger, Assembly Int. 297, Print 297—Civil Service Committee.
Killed

To authorize the creation of county bridge commissions.

Thompson, Senate Int. 458, Print 466, 1442—Internal Affairs Committee.
Feb. 22, Amend and recommit
Feb. 28, Amend and recommit

Lupton, Assembly Int. 600, Print 615, 1909—Ways and Means Committee
Feb. 23, Reported amended
Feb. 28, Third reading
Mar. 2, Passed
Mar. 3, Senate Internal Affairs Committee.

For the construction and repair of highways, bridges, and parkways.

Warner, Senate Int. 732, Print 765—Finance Committee

Senate Intr. 664, Print 694, 2058 by Mr. Feld—Education Committee.

To eliminate troublesome and inconsistent exemptions from the present licensing law.

New print No. 2058.

Refer Bulletin 2, Page 7, Last part of paragraph 4, new amendment underlined. ****** with or without qualifying adjectives, *except as established by authorized civil service commission, or by the state or subdivisions or cities thereof.*

New print number for this amendment not issued yet.

Exemption No. 6 unchanged.

Exemptions Nos. 7 and 8 are to remain in the law.

NEW BILLS 1ST REPORT FOR INFORMATION ONLY

Assembly Int. No. 2208, Print No. 2614 by Mr. Fite—Rules Committee.

Fixes size and permits printing of pen and ink drawing on tracing cloth in case of maps or subdivisions of real property filed in Dutchess County.

Senate Int. No. 1858, Print No. 2180 by Mr. Murray—New York City Committee.

Assembly Int. No. 2308, Print No. 2785 by Mr. Crews—Rules Committee.

Authorizes New York City to acquire by condemnation right to remove all elevated

railroad structures, provide compensation for loss of such rights and assess cost on property benefited and issue corporate stock or serial bonds.

Assembly Int. No. 2127, Print No. 2491 by Mr. Darling—Public Service Commission.

Senate Int. No. 1667, Print No. 1916 by Mr. Kirkland—Public Service Committees.

Provides that damages to buildings on or adjacent to or to the use thereof resulting from any railroad grade crossing elimination work outside New York, Buffalo, and Syracuse shall constitute legal claim against state.

Senate Intro. No. 1859, Print No. 2181 by Mr. Murray—Cities Committee.

Assembly Int. No. 2313, Print. No. 2790 by Mr. Killgrew—Rules Committee.

Makes bonds of housing authorities issued in connection with a federal low-cost housing project or for making loans and paying contributions for such purpose, legal investments for state, municipalities, insurance companies, banks and fiduciaries.

Senate Int. No. 1860, Print No. 2182 by Mr. Murray—Cities Committee.

Makes housing authority bonds when issued in connection with a federal project legal investments for state, municipalities, insurance companies, banks, etc.

LEGISLATIVE ACTION ON OPPOSED OR BILLS FOR AMENDMENT

Bill to restrict the engagement of consulting engineers and architects on public work.

McNaboe, Senate Int. 179, Print 179, 1794, 2063—Civil Service Committee.
February 12, Reported
March 2, Amend and recommit (Print No. 1794)
March 10, Amend and recommit (Print No. 2063)
General Orders (*Ass. Companion Bill, New, Dollinger, Int. 2268, Pr. 2703)*

(See page 6 for last amendment and comment.)

Dollinger, Assembly Int. 48, Print 48, 891—Civil Service Committee.
Killed.

To license builders in New York City.

Moran, Assembly Int. 58, Print 58—Committee on New York Rules Committee.

To license contractors on air conditioning systems.

Garrity, Sen. Int. 174, Print 174—Judiciary Committee.
No action.

Sets up State Mortagage Bank.

Feld—Senate Int. 146, Print 146—Banks Committee.
No action.

Phelps, Assembly Int. 135, Print 135—Banks Committee.
Killed.

Incorporation of Mortage Banks and permits branch banks throughout State.

Joseph, Senate Int. 476, Print 484, 967—Banks Committee.
February 9, Amend and recommit.
February 23, Reported.
February 28, 3rd reading.
March 1, Passed.
March 2, Assembly Banks Committee—Rules Committee.

Stephens, Assembly Int. 745, Print 767-2275-2428—Banks Committee.
Killed.

Registering titles to real property.

Joseph, Senate Int. 28, Print 28—Judiciary Committee. No action.

Cariello, Assembly Int. 28, Print 28—Mortgage and Real Estate Committee. Killed.

Feld, Senate Int. 148, Print 148—Judiciary Committee. No action.

Phelps, Assembly Int. 137, Print 137—Mortgage & Real Estate Com.
Killed.

Desmond, Senate Int. 457, Print 465, 964—Judiciary Committee.
February 9, Amend and recommit.

To classify engineers and architects as laborers.

Kwiatowsky, Assembly Int. 1526, Print 1686—Labor Committee. Killed.

Feld, Senate Int. 1198, Print 1320—Labor Committee. No action.

To restrict the scope of professional engineering and to nullify the protection of the designation "engineer."

Crews, Assembly Int. 1698, Print 1915—Education Committee. Killed. (See similar new bill page 7 by Crews-Assembly Int. 2235)

Fixes the rate of wages of all semi-professional employees on public work.

McCaffrey, Int. 227, Print 227, Assembly—Labor Committee. Killed.

Senate Intro. 179, Print 179, 1794, 2063 by Mr. McNaboe—Civil Service Committee.

Assembly Intro. 2268, Print 2703 by Mr. Dollinger—Rules Committee.

Bill to restrict the engagement of consulting engineers and architects on public work. Amends Civil Service Law.

Sec. 31-c. Replacement of employees and persons on preferred or eligible lists. No persons other than regular civil service employees shall be employed by cities of three hundred thousand or more inhabitants, or by independent agencies of such cities or of the state, operating wholly within such cities, for any architectural, engineering or technical service, to be performed in the planning, design, construction or maintenance of any public work, public building or public project, if at such time there shall be in the regular service of such city or agency a person whose duties or functions are of a similar nature or if there are persons who are on preferred lists of such city or agency, or if there are persons who are eligible for appointment to positions of the same or similar nature in such city or agency.

This section shall not be construed to prevent in special cases the employment or contracting for the employment by the state, civil division or city thereof, of any architect, or architectural firm, engineer, or engineering firm, or other scientific workers of peculiar or exceptional qualifications whenever in the planning, design, construction or maintenance of any public work or public project the services of a person or firm of such peculiar and exceptional qualifications shall be required. The services of any such person or firm of peculiar or exceptional qualifications so employed as contemplated by this section, shall be limited to services of an advisory or consultant nature.

Comment. Efforts have been made to have these bills amended so that they will not be objectionable to the architects and engineers in private practice or to the interested civil service groups. Owing to the limited amount of time available in which to study the effect of legislation of this sort, such an amendment could not be worked out.

It is felt that this amendment provides a decided modification to the original McNaboe and Dollinger bills. Its application is limited to the cities of Buffalo, Rochester and New York. It still provides an encroachment upon the practice of engineering and architecture and in addition serves to further restrict the application of the professional practice act, therefore *continued opposition must be registered* on the basis of the principle involved.

THESE BILLS DISAPPROVED

Assembly Intro. No. 2235 by Mr. Crews—Rules Committee.

An act to amend the education law, in relation to licensed professional engineers.

Section 1. Subdivision six of section fourteen hundred and forty-nine of chapter twenty-one of the laws of nineteen hundred nine, entitled "An act relating to education, constituting chapter sixteen of the consolidated laws," as amended by chapter one hundred and forty of the laws of nineteen hundred ten, as such section was added by chapter eighty-five of the laws of nineteen hundred twenty-seven and last amended by chapter four hundred and sixty-eight of the laws of nineteen hundred thirty-two, is hereby amended to read as follows:

6. A person *who* practices professional engineering, within the meaning and intent of this article ***** planning, design, or responsible supervision of *design and* construction (or operation), in connection with any public or private utilities, structures, buildings *****.

Section 2. Section fourteen hundred fifty of such chapter, as so added, and last amended by chapters three hundred thirty-one and three hundred thirty-two of the laws of nineteen hundred thirty-three, is hereby amended to read as follows:

Section 1450. LICENSED PROFESSIONAL ENGINEERS AND LAND SURVEYORS. In order to safeguard life, health and property, any person practicing or offering to practice professional engineering or land surveying in this state shall hereafter be required to submit evidence that he or she is qualified to practice, and shall be licensed as hereinafter provided. It shall be unlawful for any person to practice or to offer to practice professional engineering or land surveying in this state or to use the title *professional* engineer or surveyor or any other title, sign, card or devices in such manner as to tend to convey the impression that such person is practicing professional engineering *****.

Section 3. This act shall take effect immediately.

COMMENT. The above proposed amendments to the definition of the practice of professional engineering indicates a complete lack of understanding of Sub-division 6 of Section 1449. It is another attempt to redefine the practice of engineering to conform to the view-point of either operating engineers or custodian engineers, both of whom were provided for in Exemption No. 10 under Section 1457, which thoroughly clarifies the law in this respect.

The words "or operation" must remain in the definition of the practice of professional engineering as the operation of many industrial processes and works in the interests of public safety, must continue under engineering supervision. No other agencies or groups have been qualified by the State, under the law, to assume these responsibilities.

The erroneous assumption that the State, through its legalized representatives in the professions, should no longer continue this highly important phase of engineering as such, must again be vigorously opposed by all licensed engineers and architects.

It must be strongly reasserted that the professions do not welcome attempts from extraneous sources to tinker with the Act.

MID-WINTER MEETING

New York State Society of Professional Engineers

Ten Eyck Hotel, Albany, N. Y.
Saturday, March 5, 1938

Frederick H. Zurmuhlen, P. E., Toastmaster.

Addresses, Ernest V. Hoit, President of the Albany Chamber of Commerce; Warren S. Blauvelt, P. E., Vice-President of the Hudson Valley Fuel Corp; Hon. Arthur V. Sheridan, Professor of the National Society of Professional Engineers; Dr. Harlan H. Horner, Assistant Commissioner of Higher Education, State of New York; Alfred E. Roche, President of N. Y. State Society of Professional Engineers; Elmer C. Lawton, P. E., Director of Zone Five; Gardner C. George, President Albany County Chapter; Edward J. Kilcawley, P. E., President Renns. County Chapter; Morris M. Cohn, P. E., President Schenectady County Chapter.

Order of Business: Reading of minutes; Reading of communications; Reports of committees, Vice-President Johnson, Membership Committee, Engr. Balcom, Publicity Committee; Engr. Lame, Legislative and Grievance Committee; Trustee Steinman, Ethics and Professional Committee; Reports of Zone Directors, Reports of County Chapter Presidents; Financial Report: Report of Treasurer Corry; Report of Financial-Secretary Fox; Unfinished business; New business; Adjournment.

PENNSYLVANIA

President—ALEXANDER HUTCHINSON

Secretary—THOMAS W. BATTIN

PITTSBURGH CHAPTER PENNSYLVANIA SOCIETY OF PROFESSIONAL ENGINEERS

Plans For Future Work. The Fourth Annual Convention of the National Society will be held in Pittsburgh. The actual dates will be published here after decision is made by the Board of Directors.

Chapter Meeting. The regular meeting of this Chapter was held in the Assembly Room, Fort Pitt Hotel, 8 P. M. March 17, Speaker: Senator William B. Rodgers; Subject: "Two Years After the Flood."

New Members—Membership Status. The *Pittsburgh Engineer* extends a hearty welcome to these new members: Engr. Nathan B. Jacob, 507 Westinghouse Bldg., Pittsburgh; Engr. John M. Rice, 2502 Grant Bldg., Pittsburgh; Engr. Martin C. Knabe, 612 Maloney Bldg., Pittsburgh; Engr. Alexander H. Woollen, Wearever Bldg., New Kensington.

Total, Chapter Members:—155. Members transferred—0.

Lines and Angles of Chapter Activities—Organization of Chapter committees has continued, with the following additions and revisions:

Legislative Committee—additional members: Engr. Sinclair T. Powell; Engr. W. F. Vegeler.

Entertainment and Membership Committees: Engr. Edward O. Reed was transferred from the Entertainment Committee to Vice-Chairman of the Membership Committee. Engr. Chas. N. Carten was appointed Chairman of the Entertainment Committee.

Nominating Committee—Engr. J. D. Stevenson, Engr. F. J. McWade, Engrs. E. O. Reed, F. G. Ross, and William Kreiling.

Publications Committee:—Engr. Martin C. Knabe.

An interesting meeting of the Board of Direction, Committee Chairman and Vice-Chairman. with Engr. President Canfield in the chair, was held in February. The meeting proceeded to develop a constructive program for the year. Each Committee Chairman discussed plans and problems with the Board, which outlined objectives and the ways and means to reach them.

Editorial: You, doubtless, often have heard this posed: "What is the purpose the function, of the Society of Professional Engineers?" One answer to this question can be illustrated by a reference to the science of Optics.

By a prism incident rays of sunlight are refracted into the primary colors. These colors may be said to correspond to the several specialized branches of the applied science of engineering which have been refracted from the incident ray by the prism of professional practice. Within each of the branches there has been organized a learned technical Society which has been, and will continue to be, a vital factor in the advancement of engineering knowledge. One of the 1938 objectives of this chapter is continuance of cooperation with such Societies and increase of mutual good-will. This is self-cooperation for the membership of the Society is largely composed of the more civic-minded members of these Societies.

Whereas, consider the sun glass—"A convex lens for producing heat by focusing the sun's rays." (Webster) This Society partakes of the nature of the sun glass. It focuses the incident rays of professional interest and directs the energy of the concentrated beams toward the attainment of universal objectives.

The State Society has listed more than thirty of these objectives each of which has a dual nature, viz.: the advancement of the social status of the engineer, and the protection of the property, health and safety of the public.

It will be conceded, therefore, by all who aim to be fair that the definite purpose and function of this Society is to render unique service to the whole engineering profession.

For these reasons it is the right, yea the duty, of all Professional Engineers to enlarge the diameter of this sun glass and direct this instrument where it will do the greatest good for the engineering profession in general and for the public in particular.

These objectives, somewhat abridged for this publication, constitute a nine-point program as follows:

1. To accomplish greater cooperation with other Chapters and the State and National Societies; to effect an increased solidarity of action on the part of the various units.
2. Continuance of an active campaign for the increase of Chapter membership.
3. Continuance and extension of cooperation with the Technical Societies and the cultivation of mutual good-will.
4. To effect a closer approachment as between engineers and architects and a better understanding and coordination of the ethics of each group. To these ends a joint committee is recommended.
5. To make all engineers more ethics conscious.
6. To insist upon the proper remuneration of all engineers commensurate with the value of the service rendered the public by members of a learned profession.
7. To build up and to make available within the Legislative Committee a wealth of information as to the legal phases of registrature.
8. The continuance and improvement of the Chapter publication, *The Pittsburgh Engineer.*
9. To set up and implement procedure on a simple and accurate audit of the financial phases of the Chapter.

Survey of Distant Fields: The State Registration Board recently registered seventeen engineers of the Pittsburgh area. Thus grows the list of potential Chapter members.

Agreeable to the request of Engr. Robert Hall Craig, Editor of THE AMERICAN ENGINEER, the name of Engr. C. Radford Berry has been added to the mailing list of *The Pittsburgh Engineer.* Engr. Berry is Acting Director of the Engineering Bureau of the Pa. Public Utility Commission and is Chairman of the Program Committee of Harrisburg Chapter, P.S.P.E.

Speaking of *The Pittsburgh Engineer,* Engr.-Editor Craig adds: "Think we'll follow suit with a one-sheet *Harrisburg Engineer.*" Engr. John M. Moltz, Secretary of Harrisburg Chapter writes: "We are inaugurating a monthly bulletin to keep you informed of the Chapter activities, accomplishments of our members and the activities of other Chapters and our State Society. Your comments and suggestions are in order."

We compliment Harrisburg Chapter on this important step forward and appreciate the spirit of cooperation shown in the two above letters. Further, we wish to add that we, in turn, would welcome suggestions for improvement of *The Pittsburgh Engineer.*

The Supreme Court of Ohio recently rendered an interesting decision. An unlicensed engineer had been elected County Engineer of Columbiana County over his opponent Engr. Lloyd C. Kirk, who is licensed. Secretary Aires wrote Engr. Kirk for particulars. In the meantime Engr. Miles G. Bigby has funished us with p. 286 of *Enr News of the Week,* which includes a featured item that states, in part: "The Court held that, since Mr. Wheatley was disqualified, no one had been legally elected to the office. The Court ordered Mr. Kirk to continue in office until a successor had been elected and qualified.

LEHIGH VALLEY CHAPTER PENNSYLVANIA SOCIETY OF PROFESSIONAL ENGINEERS

Editorial Note: The Lehigh Valley Chapter of the Pennsylvania Society of Professional Engineers publishes its initial monthly magazine. Here is its first editorial.

EDITORIAL

It is the experience of most professional groups that the appearance of a dignified periodical under this sponsorship marks definitely the coming to age of the organization, the common arrival of the members of the group at a definite stage of awareness as professional brethern with group responsibilities and opportunities. It seems to be a law of nature that this stage must be attained before the public in its turn recognizes the group in its professional status and learns to look to it, and to it alone, for that service which the profession is trained to render.

The appearance of the *Lehigh Valley Engineer* is believed to mark such definite stage of growth. The recent meetings of this young organization, the Lehigh Valley Chapter of the Pennsylvania Society of Profes-

sional Engineers, have been large, enthusiastic, and marked by strong evidence of professional and public spirit. Their discussions have been dignified and earnest as befitting the serious nature of the topics under consideration. The Chapter shows health and vigor of growth.

Professional men come together in organization for two inter-related and mutually necessary purposes: to establish the ethical and technical standards essential to the safeguarding of public safety in all the activities of the profession, and to establish that recognition on the part of the public which will lead to the enactment of the laws essential to give the profession power to carry out its obligations. Important part of the public which must be trained in such recognition are the oncoming members of the profession itself. In this issue on page three will be found an important resolution enacted by this Chapter, designed to lead to wiser and more public spirited instruction of the student of engineering.

The Publication Committee, charged with responsibility for this news sheet, seeks the support and active cooperation of every member of this Chapter. In particular we wish to express our thanks to Engineer Frank Nagy, and our confidence in his abilities, for this venture would never have been possible but for his willingness to take up the burden on active editorship.

Hale Sutherland.

CHAPTER OFFICERS AND COMMITTEES FOR 1938

President: G. Edwin Pidcock; Vice President: Harry G. Payrow; Past Presidents: W. S. Lohr, Harry L. Ramage; Secretary: V. W. Anckaitis; Treasurer: Robert E. Huthsteiner; State Director: James A. Gish, Jr.; Chapter Directors: Chas. E. Lehr; Joseph H. Morrow; Joseph B. Walker; F. C. Peters; Hale Sutherland; Leonard M. Fraivillig. Administrative Committee: G. E. Pidcock, Chairman; W. S. Lohr; H. L. Ramage; H. G. Payrow; V. W. Anckaitis.

Legislative Committee: Jos. B. Walker, Chairman; J. S. Wise, Jr.; H. Bascom; L. P. Grossart.

Membership Committee: L. M. Fraivillig, Chairman; F. C. Peters; O. Ramsaur; J. A. Gish, Jr.; C. E. Lehr; Harry Kline; R. T. Peppell; J. A. Nelson.

Auditing Committee: H. T. Carter, Chairman; F. Nagy; G. E. Yundt.

Publications Committee: Hale Sutherland, Chairman; W. S. Lohr; G. Yundt; F. Miller; E. W. Meckley.

Meetings Committee: J. Morrow, Chairman; H. C. Roeder; T. H. Moyer; F. Nagy; R. T. Peppell.

Entertainment Committee: H. C. Roeder, Chairman; J. B. Gaffney; G. W. Kidney; W. S. Bell.

Ethics and Practice Committee: W. S. Lohr, Chairman; J. Morrow; H. G. Payrow; P. T. Frankenfield, Secretary.

Special-Registration Committee: H. L. Ramage, Chairman; C. E. Lehr; Hale Sutherland; W. S. Lohr; F. C. Peters.

MEETING NOTICE

Beginning with this issue all meeting notices will be published in the *Lehigh Valley Engineer.* Individual post card notices will be discontinued.

Our April meeting arranged by the Meetings Committee in cooperation with the Entertainment Committee was to be held at the Hotel Easton, Easton, Pa., on Friday, April 8.

Judge Herbert F. Laub of the Common Pleas Court of Northampton County and immediate Past President of the Northampton County Bar Association, was to be our guest speaker on the subject of "Legal Aspects of Registration".

NEW MEMBERS

A cordial welcome is extended on behalf of the Chapter Officers to Engineers: Prof. E. H. Uhler, Lehigh University; D. O. Pritchard, Bangor; R. E. Kirkhuff, Palmerton; Elmer J. Kiefer, Jr., Stroudsburg; and T. N. Haffner, Edward Hoehn, Harry A. Markle, Jr., Alexander Colt, F. M. Fuller, G. V. Goranson, F. W. Packer, J. L. Polk, Jr., S. G. Reque, C. T. Shoch and Nicholas Stahl, Allentown. We are proud to report that over 60% of the Registered Engineers in our Chapter territory are now Chapter Members. We can not fail to call attention to the very commendable work of our Membership Committee.

MAURICE ALVIN LONG

We report with deep regret that Engineer M. A. Long, a member of our Chapter, died on February 27, 1938. Engineer Long was the founder and President of M. A. Long Co., well known construction firm of Baltimore, Md. He maintained an Allentown branch, and joined our Society in 1937. Many local prominent buildings and projects were constructed by his company.

RESOLUTIONS

At the February meeting of the Board of Directors the following resolution was passed:

WHEREAS. Observation and experience indicate that the engineers of this generation are, to a marked degree, lacking in appreciation of the social significance of their profession and deficient in a proper understanding of their responsibility, both as individuals and as a group, to society; and WHEREAS, The necessity of an improved professional attitude on the part of the engineer has become accentuated by the recognition of the professional status of the engineer in so many States through the passage of licensing laws; and WHEREAS, The engineering schools of the State are in no small measure responsible for the professional attitude of their graduates; therefore be it RESOLVED, By the Pennsylvania Society of Professional Engineers, that it recommends to the engineering schools of the State of Pennsylvania that provision be made in all engineering curricula for the study of social and political science with due consideration to the role of technology and engineering in shaping the present social structure, and with adequate study of the opportunities and responsibilities of the engineer as a member of a legally constituted profession, this training to begin if possible in the Freshman Year. This recommendation is made to the end that the engineer of tomorrow shall be professionally minded, conscious that as a professional man he owes to society the due of service directed to human progress and welfare, and that to himself and to his group he owes loyalty together with obedience to its high ethical code, and to the enacted laws which govern it; and be it further RESOLVED, That copies of this resolution be forwarded to the Presidents and Deans of all engineering schools in Pennsylvania. to the Engineers' Council for Professional Development. and the Society for the Promotion of Engineering Education.

THE ETHICS AND PRACTICE COMMITTEE REPORTS

The Ethics and Practice Committee certainly has no desire to interfere with the legal rights of any citizen, or to endanger the right of any person to earn an honest and legitimate living. It is interested, however, in rendering assistance to the Law Enforcement Division of the Bureau of Professional Licensing in its endeavor to enforce the licensing laws of the State.

Act No. 415 of the Pennsylvania State Legislature, approved the 6th day of May, 1927, makes it "unlawful for any person to practice, *or to offer to practice,* the profession of engineering in any of its branches, including surveying, in this Commonwealth, unless such person has been duly registered or exempted under the provisions of this Act." Special attention is called to this underlined phrase.

A number of alleged violations of the licensing law have been reported to the Committee and discussed before the Board of Direction. Where sufficient evidence has been submitted to warrant action, the case has been reported to the Secretary of the State Registration Board. In most cases, an exchange of letters between the Secretary of the Board and the alleged violator of the law is sufficient to clear up the case, which frequently came about through ignorance concerning the law or misinterpretation of it. If the case is sufficiently serious, or the party involved refuses to cooperate with the Secretary of the Board, the facts will be turned over to the Registration Board which has the legal authority to prosecute the case should this action be deemed advisable.

The Ethics and Practice Committee has reported 37 cases to the State Board, 19 of which were reported so recently that no information concerning the disposition of them is available at this time. Of the remaining 18 cases, 8 have been satisfactorily closed, 2 have been tentatively closed, and 8 are pending.

A CHALLENGE TO THE SCRANTON ENGINEERS

Samuel G. Mastriani, C. E. of Scranton, County Engineer of Lackawanna County, was visiting our past President H. L. Ramage in Allentown recently. Engineer Mastriani, who is a member of the Philadelphia Chapter, expressed the opinion that Scranton should have a County Chapter of its own. We are also of the same mind and advised Engineer Mastriani that the Officers of this Chapter will be glad to come to Scranton to help get it organized.

The editorial of this issue of the Lehigh Valley Engineer states truly that Engineers themselves must first combine as have the Doctors and Lawyers in the American Medical Association and American Bar Association respectively, if they are to receive public and political recognition for the things which they create and direct for the benefit of society.

So we say, "Come on in, Scranton, the water is fine." We will help you to help yourselves and all Engineers.

PERSONALS

Under this column we intend to publish personal notes of general interest. We are asking each and every member to send in notes for publication.

Engineer-Architect A. D. Chidsey, Jr. of Easton, Pa., planned and executed a unique historical map of the Forks of Delaware. The Northampton County Historical and Genealogical Society will publish this map.

Engineer Charles Elcock has been recently appointed as Resident Engineer Inspector representing the Federal Government on the

construction of State Teachers College at Bloomsburg, Pa. and the State Hospital at Danville, Pa.

SCHUYLKILL COUNTY CHAPTER

Sponsored by the Reading Chapter of the Pennsylvania Society of Professional Engineers, representatives of national and state societies also a dozen other groups, participated in a dinner-forum meeting at the Necho Allen Hotel, recently. The purpose of the gathering was to arouse interest in the formation of a Schuylkill County Chapter, of the Pennsylvania Society of Professional Engineers. Steps toward this end were accomplished for no sooner was the meeting over, than applications were submitted, guaranteeing that the county will have an organization in a short time. In all probability the chapter's headquarters will be at Pottsville.

In the gathering were these engineers of prominence: S. I. Sacks, director National Society of Professional Engineers; Lawrence Costello, chairman of the committee of practice and ethics of the Pennsylvania Society; H. L. Ramage, also of the state organization, its second vice-president; LeRoy Christman, secretary of the Reading Chapter; Fred H. Decant, vice-president of the National Society.

Earl M. Frankhouser, president of the Reading Chapter; Robert Hall Craig, editor of THE AMERICAN ENGINEER; W. N. Smith, chairman of the meetings' committee, of the Reading chapter; W. S. Lohr, first vice-president; T. W. Battin, executive Secretary, and A. A. Townsend, treasurer, all officials of the state organization; Leslie D. Lamont, local vice-president of the Reading chapter and City Engineer George H. Steidel, both members of the Pottsville committee which arranged for the function; and E. Mac Troutman, Esq., of this city, a member of the Schuylkill County Bar.

Vice-President Decant, of the National Society, in his address referred to the fact that the Pennsylvania Society was organized in 1933. It has 600 members although there are 4,000 registered engineers in the state. Schuylkill County, at present, has but 48 registered engineers there being 120 resident who are not registered.

It was emphatically stated that the state organization is not technical. Its purpose is one of ethics and it invites affiliation of engineering groups to a common desire to create best possible standing of its members. Sincerity of purpose is the agency of the Society with earnest intent to procure fullest recognition peculiar to the profession. Legislation is an essential element. Its human social affect is also important.

Allen W. Reid, A. F. Smith, Jr., William P. Samuel, Robert S. Chubb, T. H. Hafer, George Schaeffer, Reading; H R. Randall, Ashland; E. B. DeWitt, Port Carbon; William L. James, Pottstown; E. P. Meehan, Mahanoy City; Paul Frankenfield, Robert Huthsteiner, Allentown; Edgar A. Wimer, Harrisburg; B. H. Hay, P. A. McCarron, Buck Run; Arthur Havard, Carbondale; William Laneaster, Moosic; Thomas B. Williams, St. Clair; William H. Orf, Orwigsburg; Frank V. Dormer, Branchdale; R. T. Artz, Frackville; Robert Schneck, Minersville.

Editor Craig further aroused interest in engineering groups. He referred to local unit or county society functionng as an outstanding feature of the Pennsylvania Society and in the final analysis the vital strength of the national society.

50 LEGISLATIVE ENGINEERING ACTS

The speaker stated that there are 22 societies in the United States. He urged uniform laws at large through the states, also thorough searching out of violations of ethical standards looking to as prompt correction as possible, with full coordination of all engineering legislation. The recent Legislature passed 707 new acts, of which 50 pertained to engineering directly or indirectly. The State Society now has 600 members as the activities of its three years of organization, Craig said, and predicted 1,500 in the next five years which will give it prestige and influence. It is splendid in psychology and its fine service stands as a challenge. It was his prophecy, in winding up, that the engineering profession is constantly in the ascendancy and its members are destined soon to be recognized for public office and membership on boards of great importance.

Others present were: George A. Roos, P. F. Spencer, W. G. Bush, D. E. Albertson, C. B. Lawson, C. L. O'Brien, F. C. Keuch, J. B. Gillars, Jesse L. Stevenson, Irvin Fey, James B. Leigh, Kenneth W. Falls, Walter W. Hagerty, Harold E. Smith, H. K. Portz, John Y. Sparks, Cyrus M. Prosser, P. K. Franklin, William S. Pugh, G. B. Hadesty, John W. Hadesty, C. W. Mortimer, W. B. Wells, Charles W. Wagner, Zacker R. Murray, O. W. Shimer, C. A. Morgan, W. N. Kitchen, John Klimo, H. W. Weber, Albert L. Gray, W. J. Rutyna, William F. Flail, Herbert Quin, Hilmar R. Hagen, August J. Brutenstein, Earl D. Wimmer, L. B. Reilly, F. W. Chesney, Norman Boyd, James Shelhamer and Percy L. Knowlton, Pottsville.

Announcing

THE EIGHTEENTH ANNUAL DINNER

of the

PASSAIC COUNTY ENGINEERING SOCIETY

and

The Third Annual Northern New Jersey Regional Get-To-Gether

of the

NEW JERSEY ASSOCIATION OF PROFESSIONAL ENGINEERS AND LAND SURVEYORS

Comprising Union, Essex, Hudson, Bergen, Morris, Sussex, and Passaic County Chapters

TIME: WEDNESDAY, APRIL 27, 1938—7:30 P. M.

PLACE: NEW COLONIAL INN—Main Street, just west of Route 23, Singac, N. J.

PROGRAM: Repetition of last year's good time with a prominent speaker to be announced later.

Exclusive facilities of the renowned New Colonial Inn, including MIKE BRENT'S Orchestra and famous floor show.

PARKING: Commodious facilities at the Inn.

SUBSCRIPTION $2.00 NO TIPS STAG DRESS INFORMAL

Use enclosed reply slip and return promptly—not later than April 25th to insure reservation. First come first served.

Tickets will be mailed immediately upon receipt of your reservation and check. Make all checks payable to Engineer Russell H. Benjamin and mail to him at Passaic County Park Commission, Valley Road, Paterson, N. J.

Tables for parties of eight or more will be reserved, if requested in advance.

However no reservations will be guaranteed if payment is not received by Enginner Russell H. Benjamin on or before April 25th.

IMPORTANT: Please co-operate with the committee by having your tickets validated *immediately* upon arrival in order to insure no congestion, and to permit the program to start on schedule.

Bring a non-active licensed member with you.

ENGINEER FRED GARDNER,
Chairman Dinner Committee
Clifton, N. J.

RECENT NEWSPAPER CLIPPINGS

From The Philadelphia Evening Ledger

A little note on what happens when the politicians decide they know better than engineers:

Nebraska is the scene of several PWA hydroelectric experiments, for which more than a third of the entire PWA allotments for non-Federal power projects is earmarked. Approximately $25,000,000 has already been spent.

Competent consulting engineers surveyed the projects and reported many impracticalities. Then army engineers doublechecked with similar surveys and also turned in adverse reports.

But the politicians decided the engineers did not know what they are calculating about and went ahead. Two projects have been completed, neither of which has been able to produce a steady flow of reliable firm power.

The public pays the bill when politicians decide they are high-class engineers.

Attacking the policy of American colleges and universities in handing out scholarships, Dr. William Mather Lewis, president of Lafayette College, declared the institutions are doomed and civilization itself will crack unless "clear thinkers" are produced.

"The pulling and hauling of prospective students to get them into the fold would be funny if it were not so tragic," Dr. Lewis said at the sixty-seventh annual dinner of the college alumni association in the Bellevue-Stratford Hotel.

"Boys whose parents are perfectly capable of paying their academic bills now shop around and ultimately obtain generous so-called scholarships. In other days the student sought the college and considered himself fortunate if he was accepted. Now the colleges seek the student and recognize his academic, musical, athletic or other abilities by subsidizing him."

Professional Engineers of Oregon

C. B. WRIGHT, Secretary,

200 Public Service Building, Portland, Oregon

QUARTERLY NEWS BULLETIN
MARCH, 1938

Editor's Note: We print this in tribute to an independent group of Professional Engineers active in the Pacific Northwest, whom we feel sure would be strengthened by affiliation with other strong state groups. This is its first quarterly news bulletin.

The Board of Trustees of the Professional Engineers of Oregon at the regular February 1938 monthly Board Meeting passed a resolution providing for the issuance of a monthly news letter to all members residing outside of the Portland metropolitan area and the distribution of a similar bulletin at quarterly intervals to the entire membership. This measure was adopted to permit the members (particularly those located out of town) who are unable to attend the regular meetings of the P.E.O. to keep informed of the activities and progress of our organization.

It is hoped that the news bulletins will not only provide a valuable and well deserved service to our out of town members but will further serve to create a genuine cooperation in purpose and action throughout the entire membership.

It is very interesting to note that the P.E.O. membership roster reveals 35 members who reside outside the Portland metropolitan area and of this number 10 are located outside the state of Oregon. Out of town members in Oregon are distributed as follows: Salem 6, McMinnville 4, Corvallis 3, Baker 2, Bonneville 2, Hood River 1, Carlton 1, St. Helens 1, Marshfield 1, Coquille 1, Willamina 1, Twin Rocks 1, and Eugene 1. Members outside of Oregon are scattered as follows: Washington 4, California 1, Idaho 1, Colorado 1, Missouri 1, Pennsylvania 1, and New York 1. This latter group is composed of ex-Oregon engineers who have no doubt continued their membership with this organization to maintain contact with professional friends in anticipation of a return to our own Pacific Northwest slice of "God's Country" at some future date.

From the many activities of current engineering importance worthy of support by the Professional Engineers of Oregon in 1938, the Board of Trustees at a recent meeting made a tentative selection of three subjects for investigation and reports, as follows:

1. Stream purification.
2. Fees and salaries for engineers.
3. City planning activities.

Committees have been appointed to collect and submit data on the first two of these subjects in cooperation with the regular Engineering Founder's Societies. Reports of these committees will be analyzed in a future issue of the P.E.O. news bulletin.

The Tuesday noon luncheon meetings of the Professional Engineers of Oregon have developed such an increasing interest and attendance by the members that it became necessary to transfer the meeting location from the Lipman-Wolfe Tea Room to a larger room in the Y.M.C.A. Coffee Shop in order to accommodate those attending. Many notable luncheon speakers and excellent programs have been presented this season and the members who have not availed themselves of these meetings have missed some highly interesting and informative entertainment. Following are some of the luncheon programs presented this season to date.

Rev. L. W. Lynne, Congregational Pastor, "National Trends in Europe".

Claude Butler, Prod. Mgr., Troy Laundry, "Industrial Management".

J. D. McClure, free lance photographer, "Twelve Months in Mexico."*

S. C. Su, Chinese Consul, "The Situation in China".

Arthur Moulton, attorney, "Stream Pollution & Fish Conservation".

W. G. Johannsen, banker, "Astronomy by an Amateur".

Guy W. Talbot, Jr., Airlines Mgr. "New Developments in Commercial Aviation".

Lyle T. Janz, Mgr. Better Business Bur., "Current Rackets in Portland".

Joe Hallock, U. S. Radio Insp., "Policing the Ether".

Lt. J. F. Goodwin, U. S. N. Rec. Officer, "Submarines & King Neptune."*

Walter Brenton, Chf. Engr. P.G.E. Co., "Manufacture of the Incandescent Lamp."*

Miss Rose Winkler, Winter Sports Queen, "Winter Sports and Mountaineering."*

Art. R. Kirkham, radio commentator, "Radio from the Inside".

Irving Rand, Attorney, "The Engineer on the Witness Stand".

One of the basic reasons for the existence of the Professional Engineers of Oregon is the support of the Oregon Engineering License Law and its administration by the State Board of Engineering Examiners. Accordingly a brief report of the current activities of the Examining Board will be included in each quarterly P.E.O. bulletin. The following data has been submitted for this bulletin by Mr. Archy B. Carter, Secretary of the State Board of Engineering Examiners.

The State Board of Engineering Examiners has, during recent months, given much study and consideration to the matter of reciprocal registration among engineers. Under the Oregon law the Board may issue a certificate of registration to any person upon the payment of $15.00, and the presentation of a certificate of registration in another state maintaining standards of registration equal to those in Oregon and granting equal privileges to Oregon engineers.

Certain abuses of this privilege have come before the Board recently such as that of residents of the state of Oregon who have not been registered in the State of Oregon applying for registration in some state which has recently passed an engineers' registration law and in which the so-called "grandfather's clause" is still in effect, and securing registration under said "grandfather's clause" and then asking for reciprocal registration in the state of Oregon. The Board is of the opinion that these applicants, instead of securing registration through reciprocity, should submit to examination before the Oregon Board.

S. H. Graf, a member of the Oregon Board was, in 1937, elected President of the National Council of States' Boards of Engineering Examiners which is composed of Boards from 37 states. The purpose of this organization is the promotion of uniform administration of state registration laws and the facilitating of reciprocal registration.

At the last meeting of The State Board of Engineering Examiners of Oregon, certificates to practice professional engineering were granted through reciprocity to Harold Patterson, C.E., F. H. Stevens, M.E., G. D. Hall, C.E., A. F. Stetler, C.E., L. L. Koeper, C.E. Certificates were also granted to the following applicants who successfully passed the examination held on November 5 and 6, 1937. Craig P. Eliot, E.E., Henry Berk, E.E., Everett G. Henry, E.E., T. D. Crowley, Logg., A. P. VanDeinse, M.E., Bertram G. Dick, M.E., Orville Kefoid, C.E., Robert H. Reisner, C.E., Byron R. Paul, E.E., five applicants failed the examination held in November.

In this, the first 1938 news bulletin, the P.E.O. are inaugurating a direct service to the members. Your Board and Ye Editor will appreciate a response from members giving your reaction to this new feature with suggestions or criticisms to improve it. Please bear in mind that this entire organization and all its activities are purely cooperative in practice. *You* as an individual member have the same privileges as any other member and by *your* own interest and activities the progress of the P.E.O. ship of state may be appreciably aided or retarded.

Your Board of Trustees tries merely to coordinate the ideas and suggestions coming from you members as individuals, and does not presume to formulate policies which are the brain children of Board members alone. Do your bit, show some interest. Turn out to all meetings if you can and if you can't be there in person drop the Secretary a line now and then to let us know you are still numbered among the quick and not the dead. We have plenty of real activity mapped out for 1938 and with your help we can make the Professional Engineers of Oregon a real power among the professional societies of the Northwest.

Those members who have overlooked paying their 1938 dues are reminded that the secretary has a supply of new membership cards to be exchanged for those two dollar checks. Incidentally, there has been nearly a 100 per cent response in dues from the heretofore underprivileged out-of-town members, so the delinquent metropolitan residents of Portland with all the P.E.O. advantages at their disposal should take steps to eliminate this stain on their collective record.

As engineers, get behind this, your engineering society. By your support to its activities you can advance the standing of the whole engineering profession and your own position as well.

If the address at which you receive your AMERICAN ENGINEER has been changed, notify the Executive Secretary (*not* the Editor) without delay!

—Don't Forget—

All notices of change of address should be sent promptly to:

WILLARD S. CONLON
Executive Secretary
National Press Building
Washington, D. C.

*** Indicates programs illustrated with moving pictures.**

ASSEMBLY NO. 507

State of New Jersey

Introduced March 7, 1938

By MR. McCLAVE

Referred to Committee on Highways

AN ACT CONCERNING THE PRACTICE OF PROFESSIONAL ENGINEERING AND LAND SURVEYING (REVISION OF 1938), AND REPEALING CHAPTER [EIGHT], TITLE 45, OF THE REVISED STATUTES.

Be it enacted by the Senate and General Assembly of the State of New Jersey:

1. In order to safeguard life, health and property any person practicing or offering to practice professional engineering or land surveying in this State, shall hereafter be required to submit evidence that he or she is qualified so to practice and shall be licensed as hereinafter provided and from and after the date upon which this chapter becomes effective, it shall be unlawful for any person to practice or to offer to practice professional engineering or land surveying in this State, or to use the title engineer or surveyor or any other title, sign card or device in such manner as to tend to convey the impression that such person is practicing professional engineering or land surveying or is a professional engineer or land surveyor, unless such person is duly licensed under the provisions of this chapter. Every holder of a license shall display it in a conspicuous place in his principal office, place of business or employment.

Nothing in this act shall be construed as requiring licensing for the purpose of practicing professional engineering or land surveying by any person, firm or corporation upon property owned or leased by such person, firm or corporation, unless the same involves the public safety or health.

2. Definitions. (a) The term "professional engineer" as used in this chapter shall mean a person who by reason of his or her knowledge of mathematics, the physical sciences, and the principles of engineering, acquired by professional education and practical experience, is qualified to engage in engineering practice as hereinafter defined.

(b) The practice of professional engineering within the meaning and intent of this chapter includes any professional service, such as consultation, investigations, evaluation, planning, design, or responsible supervision of construction or operation, in connection with any public or private utilities, structures, buildings, machines, equipment, processes, works, or projects, wherein the public welfare, or the safeguarding of life, health or property is concerned or involved, when such service requires the application of engineering principles and data. The practice of professional engineering shall not include the work ordinarily performed by persons who operate or maintain machinery or equipment or who supervise machinery or equipment in connection with the operation or the maintenance of such machinery or equipment. The provisions of this chapter shall not be construed to extend to architects.

(c) The term "land surveyor" as used in this chapter shall mean a person who engages in the practice of land surveying as hereinafter defined.

(d) The practice of land surveying within the meaning and intent of this chapter includes surveying of areas for their correct determination and description and for conveyancing, or for the establishment or reestablishment of land boundaries and the plotting of lands and subdivisions thereof.

(e) The term "board" as used in this chapter shall mean the State Board of Professional Engineers and Land Surveyors.

3. To carry out the provisions of this chapter, there is hereby created an examining board for the licensing of professional engineers and land surveyors, which board shall consist of five (5) members who shall be appointed by the Governor of the State of New Jersey, with the advice and consent of the Senate, within sixty days after the passage of this chapter, or as soon as practicable thereafter. The members of said board shall be appointed to serve for the term of five (5) years. Each member shall hold office after the expiration of his term until his successor shall be duly appointed or qualified. The term of office of the members of said board shall commence on the first day of May. Vacancies in the membership of the board, however created, shall be filled by appointment of the Governor from nominees recommended by the representative professional engineering societies of this State, with the advice and consent of the Senate, for the unexpired term. Notwithstanding anything herein contained, the present members of the State Board shall continue in office as members of said board until their present respective terms expire.

4. Said board, when so appointed, shall be designated and known as the "State Board of Professional Engineers and Land Surveyors."

No person shall be appointed upon said board who is not a citizen of the United States and a resident of this State at the time of his appointment, and who has not been engaged in the practice of professional engineering at least ten (10) years, and who shall not have been in responsible charge of professional engineering or land surveying for at least five (5) years.

After the passage of this chapter appointments to the board to fill expired terms shall be made by the Governor from nominees recommended by the representative professional engineering societies of the State, with the advice and consent of the Senate.

The Governor may remove any member of the board after hearing, for misconduct, incompetency, neglect of duty or for any other sufficient cause.

At least one member of said examining board qualified as set forth in section four, paragraph one, of this chapter, shall also be a licensed land surveyor.

After this chapter becomes effective, no person shall be appointed as a member of said examining board who shall not be a licensed professional engineer under the provisions of this chapter.

The members of said examining board shall receive no compensation for their services, but shall be reimbursed for all necessary travelling, hotel, incidental and clerical expenses, incurred in carrying out of the provisions of this chapter; **provided, however,** that the total of such expenses shall not exceed the total receipts from fees during any fiscal year.

5. Each member of the examining board before entering upon the duties of his office, shall subscribe to an official oath of office as provided by section 41:1-3 of the Title Oaths and Affidavits, which oath shall be filed in the office of the Secretary of State.

The examining board shall be entitled to the services of the Attorney General in connection with the affairs of the board and the board shall have power to compel the attendance of witnesses, and any member thereof may administer oaths and the board may take testimony and proofs concerning any matters within its jurisdiction.

The board shall have the power to make all by-laws and rules, not inconsistent with the Constitution and laws of the State, which may be reasonably necessary for the proper performance of its duties and the regulations of the proceedings before it. The board shall adopt and have an official seal.

In carrying into effect the provisions of this chapter, the board may, under the hand of its president and the seal of the board, subpoena witnesses and compel their attendance, and also may require the production of books, papers, documents, etc., in a case involving the revocation of license or practicing or offering to practice without license. If any person shall refuse to obey any subpoena so issued, or shall refuse to testify or produce any books, papers or documents, the board may present its petition to any justice of the State Supreme Court setting forth the facts, and thereupon such court shall, in proper case, issue a subpoena to such person, requiring attendance before court and there to testify or to produce such books, papers and documents as may be deemed necessary and pertinent to the board. Any person failing or refusing to obey the subpoena or order of said court may be proceeded against in the same manner as for refusal to obey any other subpoena or order of the said court.

6. Said examining board shall at its annual meeting to be held in April meet and organize by electing a president, vice-president, treasurer and secretary, and appoint one or more investigators and such other assistants as may be required, who shall hold their respective offices for not more than one (1) year or until their successors have been elected or appointed and have qualified.

The secretary and treasurer shall give bond for the faithful performance of their duties in such sum as the board shall determine.

The secretary and investigators shall not be members of the board and shall receive such salaries as the board shall determine; **provided, however,** that the total of such salaries and expenses incident thereto together with all other expenses shall not exceed the total receipts from fees during any fiscal year.

Said board shall meet at least semi-annually and special meetings may be held at such times as the by-laws of the board may provide.

Notice of all meetings shall be given in the manner provided by the by-laws.

A quorum of the examining board shall consist of three (3) members.

7. The secretary of the board shall receive and account for all moneys derived from the operation of this chapter and shall pay therefrom, upon resolution of the board, all expenses incurred by the said board, including salaries, in carrying out the provisions of this chapter.

An itemized account of all receipts and expenditures of the board shall be kept by the secretary and a detailed report thereof, verified by the affidavit of said secretary, shall be filed with the Secretary of State within twenty days after the close of the fiscal year.

The Secretary of State shall be paid such fees for filing the report as are now paid for filing similar reports in his office. All surplus in the hands of the board at the end of the fiscal year shall be paid to the State Treasurer.

8. The examining board shall keep a record of its proceedings and a roster of all applicants for license, showing for each the date of application, name, age, education and other qualifications, place of business and place of residence, whether or not an examination was required and whether the applicant was rejected or a certificate of license granted, and the date of such action.

The books and register of the examining board shall be prima facie evidence of all matters recorded therein. The roster showing the names and places of business and residence of all licensed professional engineers and land surveyors shall be prepared by the secretary of the board during the month of June of each year; such roster shall be printed and a copy mailed to each licensee and a copy mailed to the clerk of each city, town, township, village, borough, county and other municipal corporation of this State, which roster shall be placed on file in the office of said clerk.

9. Applications for license shall be on forms prescribed and furnished by the board, shall contain statements under oath, showing the applicant's education and detailed summary of his or her technical work, and shall contain not less than five references, of whom three or more shall be licensed engineers having personal knowledge of his or her engineering experience.

The license fee for professional engineers shall be twenty-five dollars ($25.00) or when the applicant applies for license to practice engineering and land surveying, when the fee shall be thirty-five dollars ($35.00), and in either case ten dollars ($10.00) shall accompany the application the remainder to be paid upon notification that application has been approved subject to such final payment, when license certificate will be issued.

The license fee for land survyors shall be twenty-five dollars ($25.00) of which ten dollars ($10.00) shall accompany the application, the remainder to be paid upon notification that application has been approved subject to such final payment, when license certificate will be issued.

Should the board deny the issuance of a license certificate to any applicant for professional engineer's license or for land surveyor's license, the initial fee of ten dollars ($10.00) shall be retained.

When a certificate of qualification issued by the National Bureau of Engineering Registration is accepted as evidence of qualification, the total fee for license as professional engineer shall be fifteen dollars ($15.00) and shall accompany the application.

The following shall be considered as minimum evidence satisfactory to the board that the applicant is qualified for license as a professional engineer, or land surveyor, respectively, to wit:

(1) As a professional engineer:

a. Graduation from an approved course in engineering of four years or more in a school or college approved by the board of satisfactory standing; and a specific record of an additional four years or more of active practice in engineering work of a character satisfactory to the board, and indicating that the applicant is competent to be placed in responsible charge of such work; or

b. Successfully passing a written, or written and oral, examination designed to show knowledge and skill approximating that attained through graduation from an approved four year engineering course; and a specific record of eight years or more of active practice in engineering work of a character satisfactory to the board and indicating that the applicant is competent to be placed in responsible charge of such work; or

c. A specific record of twelve years or more of lawful practice in professional engineering work of a character satisfactory to the board and indicating that the applicant is qualified to design or to supervise construction of engineering works and provided

applicant is not less than thirty-five years of age; or

d. A certificate of qualification issued by the National Bureau of Engineering Registration may, in the descretion of the board, be accepted as minimum evidence satisfactory to the board that the applicant is qualified for license as a professional engineer.

(2) As a land surveyor:

a. Graduation from an approved course in surveying in a school or college approved by the board as satisfactory standing; and an additional two years or more of actual practice in land surveying work of a character satisfactory to the board and indicating that the applicant is competent to be placed in responsible charge of such work, or

b. Successfully passing a written, or written and oral, examination in surveying prescribed by the board; and a specific record of four years or more of active practice in land surveying work of a character satisfactory to the board and indicating that the applicant is competent to be placed in responsible charge of such work, or

c. A specific record of twelve years or more of lawful practice in land surveying work of a character satisfactory to the board and provided applicant is not less than thirty-three years of age.

No person shall be eligible for license as a professional engineer or land surveyor who is under twenty-one years of age and who is not a citizen of the United States or who has not made declaration of his or her intention to become a citizen of the United States, or who does not speak and write the English language, or who is not of good character and reputation.

The satisfactory completion of each year of an approved course in engineering in a school or college approved by the board as of satisfactory standing, without graduation, shall be considered as equivalent to one-half years of active practice.

Graduation in a course of four years or more, other than engineering, from a college or university of recognized standing shall be considered as equivalent to two years of active practice.

In considering the qualifications of applicants, engineering teaching may be construed as engineering experience.

The mere execution, as a contractor, of work designed by a professional engineer, or the supervision of construction of such work as a foreman or superintendent shall not be deemed to be active practice of engineering work.

Any person having the necessary qualification prescribed in this chapter to entitle him or her to license shall be eligible for such license though he or she may not be practicing his or her profession at the time of making the application.

Applicants for license, in cases where the evidence originally presented in the application does not appear to the board to be conclusive, or to warrant the issuance of a certificate, may present further evidence for the consideration of the board which may include the results of a required examination.

In determining the qualifications of applicants for license as professional engineers or land surveyors, character shall be given predominant weight and a majority of vote of the members of the board shall be required to pass upon the issuance of a license to any applicant.

The scope of the examination and methods of procedure shall be prescribed by the board with special reference to the applicant's ability to design and supervise engineering works so as to insure the safety of life, health and property. Examinations shall be given for the purpose of determining the qualifications of applicants for license separately in professional engineering and in land surveying. A candidate failing on examination may apply for re-examination at or after the expiration of six months and will be re-examined without payment of additional fee. Subsequent examinations will be granted upon the payment of a fee to be determined by the board and not to exceed ten dollars ($10.00).

10. Certificates. The board shall issue a license certificate upon payment of the license fee as provided in this chapter, to any applicant who, in the opinion of the board has satisfactorily met all the requirements of this chapter. In the case of a licensed engineer the certificate shall authorize the practice of the applicant as a "professional engineer" licensed land surveyor as a "land surveyor" solely under that title, or as "professional engineer and land surveyor" when the applicant qualifies in both respects. Certificates of license shall show the full name of the licensee, shall have a serial number and shall be signed by the president and the secretary of the board under the seal of the board. Th issuance of a license certificate by this board shall be evidence that the person named therein is entitled to all rights and privileges of a licensed engineer or a licensed land surveyor, or as both as the case may be, while said certificate remains unrevoked or unexpired.

Each licensed "professional engineer" or "land surveyor" shall upon receipt of license, obtain a seal of design authorized by the board, bearing his or her name, license number and the legend "Licensed Professional Engineer and Land Surveyor" if so licensed. Plans, specifications, plats, and reports issued by the licensee shall be stamped with the said seal when filed with public authorities, during the life of the licensee's certificate, but it shall be unlawful for anyone to stamp or seal any documents with said seal after the certificate of the licensee named thereon has expired or has been revoked, unless said certificate shall have been renewed or reissued. The exact method of fulfilling the requirement as to the stamping of documents shall be regulated by the board.

All professional engineers licensed by this board prior to the passage of this chapter, shall continue to practice under the various classifications heretofore granted and within the branches of engineering indicated, or may, upon application therefor, and the payment of a fee of five dollars ($5.00) receive a new certificate under the title "professional engineer"; **provided**, said professional engineer presents evidence satisfactory to the board of his qualifications to practice in the field of general engineering comprehended in the title "professional engineer".

All licenses granted by the board shall be recorded by the board in the office of the Secretary of State, in a book kept for that purpose and any recording fee as may be provided by law shall be paid by the applicant before the license is delivered.

11. Expirations and renewals. License certificates shall expire on the thirtieth day of April following issuance or renewal and shall become invalid on that day unless renewed. Licensees shall apply for renewal on or before the thirtieth day of April of each year. It shall be the duty of the secretary of the board to notify all persons licensed under this chapter of the date of the expiration of their certificates and the amount of the fee that shall be required for their renewal for one year; such notice shall be mailed at least one month in advance of the date of expiration of said certificate. Renewal may be effected at any time during the month of April by the payment of the following fees, to wit:

As professional engineer, five dollars ($5);

As professional engineer and land surveyor, five dollars ($5);

As licensee under any one of the special titles in professional engineering designated by the board prior to the passage of this chapter, five dollars ($5);

As land surveyor, five dollars ($5).

The failure on the part of the licensee to renew his or her certificate annually in the month of April as required shall not deprive such person of the right of renewal during the ensuing year but the fee to be paid for the renewal of a certificate after the thirtieth day of April shall be increased two dollars ($2) for every three months or fraction thereof that payment of renewal is delinquent; **provided, however**, that the maximum fee for delinquent renewal shall not exceed twice the normal renewal fee. One notice to the licensee, by registered mail, on or before April fifteenth, addressed to his or her last place of residence known to the board, informing him or her of his or her failure to have applied for renewal of his or her license shall constitute legal notification of such delinquency by the board.

The failure on the part of the licensee to renew his or her certificate within one year from the date of the expiration of said license will automatically revoke such license and the right of the person to practice thereafter shall be restored only by a new application for license in the regular manner and the favorable action of the board. Continuing to practice as a "professional engineer" or as a "land surveyor" after the expiration of his or her license shall render the person so doing liable to all the penalties prescribed for practicing without a license.

12. The examining board shall have the power to revoke the certificate of license of any professional engineer or land surveyor licensed hereunder who is found guilty by said board or any fraud or deceit in obtaining a certificate of license, or of gross negligence, incompetency or misconduct in the practice of engineering or land surveying.

Any person may prefer charges of such fraud, deceit, negligence, incompetency or misconduct against any professional engineer or land surveyor hereunder.

Such charges shall be in writing and sworn to by the complainant and submitted to the board. Such charges unless dismissed without hearing by the board as unfounded or trivial, shall be heard and determined by the board within three (3) months after the date on which they are preferred.

The time and place for such hearing shall be fixed by the board. A copy of the charges together with a notice of the time and place of hearing shall be personally served on the accused by the board at least thirty (30) days before the day fixed for the hearing, and in the event that such service cannot be effected thirty (30) days before such hearing, then the date of hearing and determination shall be postponed as may be necessary to permit the carrying out of this execution. At said hearing the accused shall have the right to appear personally and by counsel and to cross examine witnesses against him or her and to produce evidence and witnesses in his or her defense. If after said hearing three or more members of the board vote in favor of finding the accused guilty of any fraud or deceit in obtaining a certificate, or of gross negligence, incompetency or misconduct in the practice of professional engineering or land surveying, the board, shall revoke the certificate of license of the accused. The board may under circumstances which to it may seem proper, reissue a certificate of license to any person whose certificate has been so revoked.

A new certificate of license to replace any certificate lost, destroyed or mutilated, may be issued subject to the rules and regulations of the board. A charge of three dollars ($3) shall be made for such reissuance.

13. Any person who, hereafter, is not legally authorized to practice professional engineering or land surveying in this State according to the provisions of this chapter, who shall so practice or offer so to practice in this State, except as provided in section fourteen of this chapter, or any person presenting or attempting to file as his own the certificate of license of another, or who shall give false or forged evidence of any kind to the board, or to any member thereof, in obtaining a certificate of license, or who shall falsely impersonate another licensed practioner of life or different name, or who shall use or attempt to use an expired certificate of license or an unexpired and revoked certificate of license, shall be deemed guilty of a misdemeanor and punishable upon conviction thereof by a fine of not less than one hundred dollars ($100.00) nor more than five hundred dollars ($500.00) or by imprisonment for a term of not exceeding three months, or by both fine and imprisonment.

All fines collected for the violation of any of the provisions of this chapter shall be paid to the secretary of this board to be held, disposed and accounted for by him as herein directed, and it shall be the duty of the county treasurer of each county, or the treasurer of any municipality, upon receipt by him of any such fine, to forthwith pay over same to the secretary of the board. The board or any member or officer thereof may prefer a complaint for violation of this chapter before any court, tribunal or magistrate having jurisdiction and may by its officers, counsel and agents, aid in presenting the law or facts before said court, tribunal or magistrate in any proceeding taken thereon, and it shall be the duty of the prosecutor of the pleas of the counties in this State to prosecute all violations of the provisions of this chapter.

14. The following shall be exempted from the provisions of this chapter:

(1) A person not a resident of and having no established place of business in this State, practicing or offering to practice herein the profession of engineering or land surveying, when such practice does not exceed in the aggregate thirty days in any calendar year; **provided**, such person is legally qualified by license to practice the said profession in any State or country in which the requirements and qualifications for obtaining a certificate of license are not lower than those specified in this chapter.

(2) A person not a resident of and having no established place of business in this State, or who has recently become a resident thereof, practicing or offering to practice herein for more than thirty days in any calendar year the profession of engineering or land surveying, if he shall have filed with the board an application for a certificate of license and shall have paid the fee required by this chapter; **provided**, that such a person is legally qualified to practice said profession in any State or country in which the requirements and qualifications for obtaining a license are not lower than those specified in this chapter. Such exemption shall continue only for such time as the board requires for the consideration of the application for license.

(3) An employee or a subordinate of a person holding a license under this chapter or an employee of a person exempted from license by subsections (1) and (2) of this section; **provided**, this practice does not include responsible charge of design or supervision.

(4) Officers and employees of the Government of the United States while engaged within this State in the practice of engineering or land surveying, for said Government.

(5) Practice of professional engineering or land surveying solely as an employee of this

State or any political subdivision thereof at the time this chapter becomes effective and thereafter only until the expiration of the then existing term of office of such employee.

(6) The practice of engineering or land surveying solely as an officer or employee of a corporation engaged in interstate commerce as defined in an act of Congress entitled "Act to regulate commerce", approved February fourth, one thousand eight hundred and eighty-seven, and as amended, unless the same affects public safety or health.

15. Hereafter no county, city, town, township, village, borough or other muncipal corporations or other political subdivisions in the State shall engage in the construction or maintenance of any public work involving specifications and estimates have not been professional engineering for which plans, made by, and the construction and maintenance supervised by a licensed professional engineer nor shall any county, city, town, township, village, borough or other municipal corporation or other political subdivision in the State employ any person to perform work involving land surveying except a licensed land surveyor.

16. No department, institution, commission, board or body of the State Government, or any political subdivision thereof shall designate, appoint or employ an engineer in responsible charge other than a duly qualified professional engineer who has been licensed by the State of New Jersy, prior to the designation, appointment or employment by such department, institution, commission, board or body of the State Government, or any political subdivision thereof.

Notwithstanding anything in this chapter to the contrary no engineer licensed in this State prior to the passage of this chapter and holding an appointment by the State or by any department, institution, commission, board or body of the State Government, or any political subdivision thereof shall be deprived of the right of reappointment to the same office or position.

17. The clerk of such department, institution, commission, board or body of the State Government or political subdivision thereof shall file with the secretary of the State Board of Professional Engineers and Land Surveyors the name of any engineer designated, appointed or employed, within thirty days after appointment. Where engineers or land surveyors are employed, subject to the provisions of the civil service law, the appointment of any such person shall be understood to mean and include appointment after such person has been certified as having satisfactorily passed a civil service examination. No person, firm, association or corporation engaged in engineering or land surveying, shall employ an engineer or land surveyor, in responsible charge of any work, other than a duly qualified professional engineer or land surveyor, who has been licensed pursuant to the provisions of this chapter, prior to such employment by the person, firm, association or corporation so engaged in engineering or land surveying; **provided**, however, that nothing in this chapter shall apply to any public utility as defined in chapter two of Title 48 of the Revised Statutes, or any employee thereof or to any improvement or proposed improvement made by any such public utility or by any employee of or any contractor or agent for said public utility.

18. All licensed land surveyors making any survey under the name of such licensee shall, from and after the passage of this chapter, maintain a place of business, upon which place of business there shall be conspicuously displayed a sign, which sign shall contain the name and address of such licensee; and, further, the words "Licensed Land Surveyor." Any person violating the provisions hereof shall be guilty of a misdemeanor and punishable by a fine not exceeding one hundred dollars ($100.00), and all proceedings shall be in the same manner as is provided for penalties authorized by this chapter.

19. No department, institution, commission, board or body of the State Government, or any political subdivision thereof, being the depository or having the custody of any plan or specification involving professional engineering or land surveying shall receive or file any plan or specification involving professional engineering unless there shall be attached thereto the certificate and seal of a professional engineer licensed pursuant to the provisions of this chapter nor receive or file any plan or specification involving land surveying unless there shall be attached thereto the certificate and seal of a land surveyor licensed pursuant to this chapter.

20. Nothing in this chapter shall be construed as prohibiting licensed professional engineers from making surveys where such surveys are essential to engineering projects, nor as prohibiting any person from doing land surveying; **provided**, he does not hold himself out to be a licensed land surveyor, and accept or receive compensation for such service.

21. This chapter shall not be construed to affect or prevent the practice of any other legally recognized profession. Nothing in this act shall be construed as prohibiting, regulating or interfering with persons duly licensed under any laws of this State in the operation and maintenance of equipment and in the supervision of operation of steam power plants, portable machinery and equipment, and refrigeration plants, or from engaging in such enginering activities as may be incident to such operating, maintenance or supervision as is customarily a part of the services rendered by such licensed persons in the course of their employment.

Proposed by Engineers License Bureau of Labor Dept.

22. The provisions of this chapter are severable, and if any of the provisions hereof are held unconstitutional the decision shall not be construed to impair any other provisions of this chapter. It is hereby declared as the legislative intent that this chapter would have been adopted had such unconstitutional provisions not been included herein.

23. Chapter eight of Title 45 of the Revised Statutes is hereby repealed. All acts and parts of acts inconsistent herewith be and the same are hereby repealed and this act shall take effect immediately.

STATEMENT

The purpose of this law is as follows:

1. To more effectively safeguard life, health and property in the practice of professional engineering and land surveying, and
2. To remove ambiguities in the existing legislation governing the practice of professional engineering and land surveying, and
3. To raise the standard for practice of professional enginering and land surveying, and
4. To establish a more comprehensive and modern definition of "professional engineer" and "professional engineering" and
5. To bring about a closer correspondence between the requirements for practice in this State and the requirements of other States having professional engineers and land surveyors license laws, and
6. To promote a relation between this State and the other States that will conduce to reciprocal practice privileges.
7. This law creates no new board or body, does not provide any compensation to the members of the board and is not, in any respect, another job or salary bill.

Endorsements

This law is endorsed by

(1) The State Board of Professional Engineers and Land Surveyors.
(2) The New Jersey Association of Professional Engineers and Land Surveyors.
(3) Engineer's Advisory Committee of the State League of Municipalities.

The foregoing draft of the revised Professional Engineering and Land Surveying Practice Act, now before the New Jersey Assembly, which it is hoped will be passed by the two Legislative bodies and signed by the Governor, represents an earnest effort by a devoted Committee of Professional Engineers consisting of the late Victor Gelineau, Jay A. Jacobs, Morris Goodkind, Herbert W. Heilmann, Spencer C. Hamilton, Russell S. Wise, Chester Miller, N. J. McInness and Frederic O. Runyon.

Professional Engineers owe these men a debt of gratitude.

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South Jersey Chapter—Engineer Frederick D. Braun, 22-a N. Nashville Avenue, Ventnor, N. J.

Headquarters Chapter—Engineer Ernest F. Weeks, 200 East Fifth Street, Paterson, N. J.

THE N. J. ASSOCIATION OF PROFESSIONAL ENGINEERS AND LAND SURVEYORS. SOME OF ITS ACTIVITIES AND INTERESTS

Legislation affecting the status of the engineer, is being carefully watched and efforts made to protect his interests.

National, state, county and city projects are being studied and sponsored and recommended where public safety, comfort, economics, etc. are involved and where the services of the engineer are being used for the public welfare.

Through the county Chapters many engineers are being placed in positions through employment committees.

Raising of the standards of the profession, and obtaining better relations with the other professions. Also study and establishment of equitable compensation.

Co-operating with the National Society of Professional Engineers which is actively engaged in Washington, D. C., and throughout the country on matters of interest to the engineer.

The holding of an annual state convention where engineers have an opportunity to meet for their association business, and to discuss in the achievements and developments of the various branches of engineering in the state.

ENGINEERING DEFINED

"Engineering is a science of recognizing problems, of analyzing them by basic analyses, of determining all facts and coordinating them, of discovering ways and means, of executing with meticulous care and exactness and of directing dynamically unto ultimate conclusion." "In plain English," said Prof. C. O. Reed, the Cyrus Hall McCormick Medalist, before the American Society of Agricultural Engineers, "the engineer is the man who must evolve a sound working program and carry it out efficiently." Prof. Reed recognizes the narrowness of the public's conception of engineering and urges engineers more accurately to visualize engineering for the layman.

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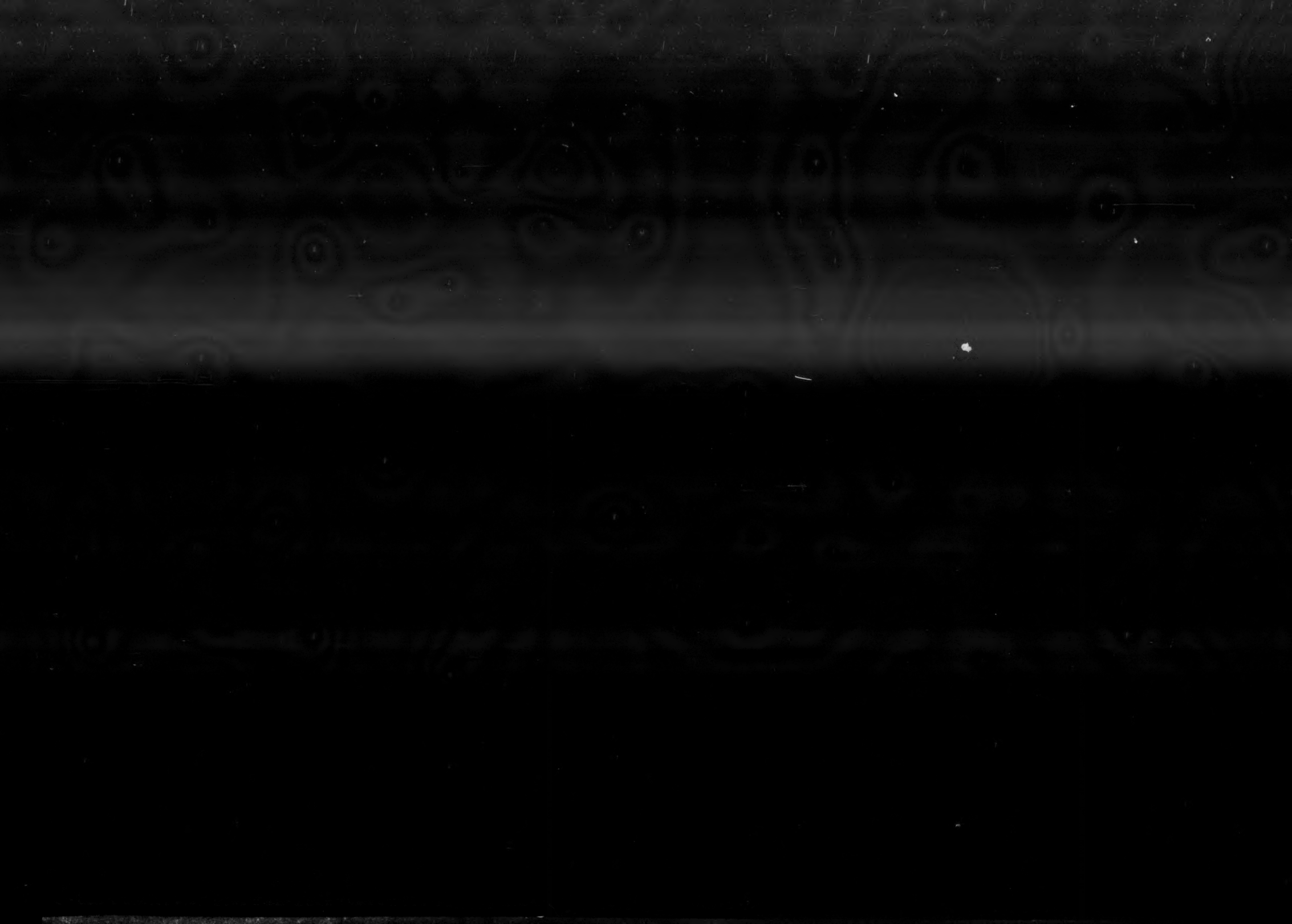
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